The Croonian Lectures

ON

RADIO-ACTIVITY AND CARCINOMA:

AN EXPERIMENTAL INQUIRY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON IN JUNE, 1909.

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[WITH SPECIAL PLATE.]

LECTURE I.

[AFTER thanking the College for the honour it had done him in inviting him to deliver the lectures, pointing out that the inquiry was still incomplete and that contributions to the entire research had been made by numerous workers in the Cancer Research Laboratories of the Middlesex Hospital, the lecturer proceeded as follows:]

The leading idea throughout the whole research has been the undoubted fact that workers with x rays are liable to suffer from carcinoma of the hand. It is unnecessary to labour this point in view of the conclusive evidence furnished by my former assistant, Mr. C. W. Rowntree, in his Hunterian Lecture before the Royal College of Surgeons of England on March 17th, 1909. From a careful examination of the microscopical sections shown by Mr. Rowntree, I am convinced that he is right in describing the x-ray condition which may follow on a somewhat severe and prolonged dermatitis occasioned by exposure to x rays as a squamous cell carcinoma.

Into the question of the relationship of the x rays to the carcinoma, whether it is specific and direct or non-specific and, so to speak, accidental, I do not propose to enter here. It will be more convenient to deal with the whole subject at the conclusion of the lectures. For the moment it will suffice to allow that exposure to x rays and carcinoma of the hand are closely related in certain cases.

The next idea of importance in connexion with the research is that for many years certain physical agents have been considered by the profession to be causally related to cancer of special sites. Thus clay pipes have been associated with cancer of the lip, paraffin and tar with cancer of the hands and arms of workers with these substances, soot with cancer of the scrotum in chimney sweeps, gall stones with cancer generally and particularly with cancer of the gall bladder. In addition, betel-nut chewing has been associated with cancer of the cheek, especially in Ceylon and the East, where the habit is common; use of the kangri has been associated with "kangri cancer" in Kashmir, while bilharziosis in Egypt has been held accountable for cancer of the bladder. Similarly it has been noted that cancer occasionally develops on old scars, on the floor of chronic ulcers, and on the site of lupus.

An approximation of these two ideas suggested the inquiry whether the clay pipes, the paraffin, tar, soot, etc., emit x rays or give other evidence of radio-active properties. If the answer to this question were in the positive, a single factor would be demonstrated to be present in a group of physical agents differing to the widest degree from one another, and the probability that each particular variety of cancer depended upon the physical agent usually inculpated would be strengthened, while presumption would be raised for the proposition that the common factor in all the physical agents—that is, their radio-activity—is causally related to the common factor in the pathological conditions to which they all are supposed to give rise—that is, the cancer.

It is remarkable that the cancer in all the cases that have been mentioned above, with the sole exception of that affecting the gall bladder, is squamous cell carcinoma. Moreover, the histological diagnosis is almost invariably to be made with great ease, Malpighian cells, prickle cells, and epithelial pearls being conspicuous. For this reason the present research has been confined to the group of carcinomata, meaning thereby squamous cell, columnar cell, and spheroidal cell carcinomata as determined by microscopical examination.

The research, therefore, resolved itself into a determination whether clay pipes, etc., and carcinomatous material give evidence of radio-activity.

The two chief criteria of radio-activity relied on by the physicist are (1) the action of the substance in question upon a charged electroscope and (2) its action upon a photographic plate in the dark. Of these criteria action upon a photographic plate in the dark is well known to the medical profession in the production of skiagraphs, but it is upon the electrical properties that the physicist places more reliance.

Owing to the fact that the x-ray tube only emits gamma radiations, while such radio-active substances as radium, uranium, and thorium emit alpha particles, beta rays, and gamma rays, while they also are far more complex than their chemical names would suggest, it became necessary to consider these substances as well as the x rays. It is clear that a substance may belong to the radio-active group and yet fail to produce gamma radiations. Thus, "chemically pure" uranium oxide emits alpha particles and beta and gamma rays, but the physicist can separate a uranium oxide from this, which is indistinguishable in its chemical reactions, but differs electrically in emitting alpha particles alone. Such uranium is without effect upon a photographic plate, though it affects a charged electroscope.

In addition to their power of affecting a photographic plate in the dark, radio-active substances emitting gamma rays with their high velocity and penetrating power, or beta rays with their somewhat lower but still great velocity and penetrating power, have the property of affecting the photographic plate though separated from the film by such substances as aluminium, mica, etc. This property forms an important means of differentiating the action of a recognized radio-active substance, such as radium or thorium, from other substances which apparently fail to possess the power of acting through a screen. How far this differentiation between radio-active and non-radio active substances may be carried by this method will be discussed later.

Electrically, the recognized radio-active substances have the property of accelerating the discharge of an electroscope whatever the sign of the electricity with which its leaves are charged. This property depends upon the fact that the radio-active substance by the alpha particles (helium atoms charged +), beta rays (negative electrons) and gamma rays which it emits, ionizes the air in the electroscope, breaking the molecules up into their constituent atoms, each of which is electrically charged + or −. These charged atoms collide with the charged gold leaves, and such as are of opposite sign to the charge on the leaves neutralize a corresponding amount of electricity on the leaves. The greater the ionization of the air in a given time the more rapidly the charged leaves fall together, and the greater the radio-activity of the substance under investigation is said to be.

From what has been said it follows that the various substances dealt with in the present investigation call for consideration (1) as regards their action when exposed to a photographic plate in the dark, and (2) as regards their influence upon the rate of leak of an electroscope (a) charged + and (b) charged −. In addition, it is necessary to determine the same points in regard to non-carcinomatous substances, and, further, to determine the influence of radio-activity upon the division of cells by direct experiment.

In the present lecture I propose to show that certain animal tissues and other substances have the power of acting upon a photographic plate in the dark. In the second lecture I shall consider, as far as possible, the properties and nature of the substances in the tissues which possess this power. The third lecture will be devoted to a consideration of the electrical properties of the carcinomatous and non-carcinomatous substances; while the fourth lecture will deal with the influence of radio-activity upon cell division, and will include a short general survey of the bearings of the experiments.

THE SKOTOGRAPHIC ACTION OF CERTAIN ANIMAL TISSUES AND OTHER SUBSTANCES.*

If a sample of human liver be minced, dried in the hot-air oven at 100–110° C., reduced to a powder and some of

* I have ventured to use the word "skotograph" to signify the effec that is produced upon a photographic plate by certain substances in the dark (σκότος, darkness), on the analogy of "photograph," "radiograph," and "skiagraph." The effects to which attention is about to be directed are certainly not *photographs* in the ordinary sense of the word, neither are they *skiagraphs*, while to term them *radiographs* would be to assume the point at issue.

this powder be placed on a photographic film in the dark and the plate and powder be kept in contact in complete darkness for a certain length of time, it will probably be found, on developing the plate, that the former situation of the powder is indicated by a more or less considerable, punctate, deposition of silver. Prior to development the photographic plate shows no alteration. Similarly, if a "pure" cholesterin gall stone be exposed to a photographic plate in the dark, subsequent development of the plate will probably show an intense deposition of silver which occupies a larger area than corresponds to the area of the calculus in contact with the plate (Figs. 1 and 2). Skotographic action is not manifested by all animal substances, for example, it is rarely produced by spleen or lung dried and powdered as above, while numerous experiments made with uric acid calculi, paraffin wax, and clay pipes have shown that these substances possess no skotographic power. Similarly certain varieties of micro-organism possess marked skotographic power, while others appear to be totally deficient.

It is unnecessary here to enter into the details of the method for obtaining skotographs, or the precautions to be taken in order to eliminate the action of light or of any outside influence of a recognized radio-active nature. These are all given elsewhere.[1] It must be stated, however, that the values assigned to the various plates showing skotographic action were determined by comparing them with the effect produced in a photographic plate by allowing x rays to act upon it through a Benoist's gauge. Since the gauge consists of aluminium graduated in thickness from 1 mm. to 12 mm. a graduated deposition of silver takes place on the plate. It was possible to graduate the degrees of silver deposition by this means from 0 to 6; and since the same skiagraph was used throughout, the values given for the various substances and tissues are comparable among themselves.

Tissues from Non-malignant Cases.

In all, tissues from 115 bodies of persons dying from some cause other than malignant disease were examined skotographically. In most instances the examination included samples of liver, kidney, spleen, and lung. The patients were of both sexes and of all ages; they were grouped for purposes of comparison into the following age-periods:

Under 2 years of age.	35 to 45 years.
2 to 20 years.	45 to 55 years; and
20 to 35 years.	Over 55 years of age.

This grouping of age-periods was made in order to institute a comparison with similar tissues derived from cases of carcinoma. In addition to the above, specimens of brain, pancreas, breast, liver of sheep and of ox, tissues of mouse, guinea-pig, and rabbit were examined skotographically, but no reference to the results will be made here.

The results of the investigation are summarized in the following table:

Table showing Mean Skotographic Values of Liver, Kidney, Spleen, and Lung in 115 Non-malignant Cases.

Age.	Males.				Females.			
	Liver.	Kidney.	Spleen.	Lung.	Liver.	Kidney.	Spleen.	Lung.
Under 2 years ... ... (10 males, 10 females)	1.7	2.3	0.8	0.9	3.1	1.6	0.9	1.1
2 to 20 years ... ... (9 males, 6 females)	2.1	2.4	0.6	0.4	3.2	2.8	0 4	0.6
21 to 35 years ... ... (12 males, 10 females)	3.0	2.6	1.1	0.75	3.7	2.3	0.5	0.6
36 to 45 years ... ... (9 males, 10 females)	2.7	1.6	0.3	0.0	3.4	3 9	0.9	0.5
46 to 55 years ... ... (10 males, 10 females)	3.3	1.4	0.5	0.0	4.2	2.7	0.8	0.8
Over 55 years ... ... (11 males, 8 females)	3.9	2.0	0.5	0.9	2.6	2 5	1.1	0 25
Means at all ages ... ... (61 males, 54 females)	2.8	2.1	0.6	0.6	3.4	2.8	0.8	0.6

From this table it appears that liver and kidney possess a far higher skotographic power than spleen or lung, and that the female tissue in each case had a greater skotographic power than the corresponding male tissue.

Owing to the large size of the liver and to the fact that it exerts the largest amount of skotographic effect, the figures for it may be examined more closely. It is seen that the skotographic power of the liver in males increases steadily throughout life, with the exception of a fall at the age-period 36 to 45 years. In females this rise in skotographic power of the liver, including the fall at the age-period 36 to 45, is also seen. But whereas the values for the male reach their highest in the age-period "over 55 years," this same age-period in females witnesses a remarkable fall in skotographic power of the liver. Further reference to this point will be made in the last lecture.

The small mean values obtained for the spleen and lung are due to the fact that occasionally these organs exert a definite effect. Two-thirds of the total number of spleens examined skotographically, and two-thirds of the total number of lungs, were absolutely without skotographic power. On the other hand, only one-fifth of the total number of livers examined skotographically were without effect.

Carcinomatous Material.

The skotographic value of the primary mass has been determined in 17 cases of carcinoma; of secondary growths, 29 specimens from 24 cases have been examined; 11 of the cases were male, 30 female. Two primary and four secondary growths were without skotographic effect, or the effect was doubtful. The mean skotographic value of the male primary masses was 2.0, male secondary masses 2.5; that of the female primary masses was 3.6, female secondary masses 3.2. Hence the superiority of the skotographic value of female tissue over that of male tissue obtains also in the case of carcinoma (Figs. 3 and 4).

Tissues from Cases of Carcinoma.

The skotographic values of the liver, lung, kidney, and spleen have been determined in 72 cases of carcinoma, 41 of which showed important metastases, and 31 insignificant metastases or none at all. The cardinal facts that liver and kidney exert a greater skotographic power than lung and spleen, and that the skotographic power of a female tissue is greater than that of the corresponding male tissue, are shown in this class of case as in that in which there is no malignant disease. But it appears that the carcinomatous condition is not without effect upon the skotographic power of the various tissues. This is best seen by considering the case of the liver. The effect of carcinoma upon the skotographic power of the liver may be considered in two ways:

1. Livers, themselves free from metastasis, may be compared skotographically according as they are derived from cases in which the total mass of carcinomatous material in the body is great or is small.

2. A comparison may be made between the hepatic tissue of non-malignant cases and the hepatic tissue of carcinomatous cases in which the liver is the seat of numerous large metastases.

These two different methods of approaching the question agree in indicating that carcinoma augments the skotographic power of the liver in males and decreases it in females. In the following table are given the figures upon which this statement is founded.

Table to show the Influence of Carcinoma on the Skotographic Power of the Liver.

Age.	Males.				Females.			
	Non-malignant Cases.	Growth Present in Liver.	Much Growth in Body.	Little Growth in Body.	Non-malignant Cases.	Growth Present in Liver.	Much Growth in Body.	Little Growth in Body.
Under 35 ...	3 0	—	—	—	3.7	2.0	1.7	4.0
36-45	2.7	3.5	2.75	—	3.4	3.5	3.7	4.25
46-55	3.3	3.5	3.5	1.8	4.2	—	3.7	4.0
Over 55... ...	4.0	4.5	4.5	3.8	2.6	2.5	2.5	2.6

But consideration of the above table shows that the matter is not so simple. For, although male hepatic substance in the neighbourhood of liver metastases is more skotographic than non-malignant liver while the converse is true in the case of the female, and although male

hepatic substance where there is much growth in the body is more skotographic than when there is little while the converse is true in the case of the female, a small amount of carcinoma in the body appears to diminish the skotographic power of the male liver, while it augments that of the female liver. I do not attempt an explanation of these points; indeed, they need confirmation on a much larger number of cases. The regularity with which female liver and male liver act in opposite directions, in the face of what is apparently a single condition—that is, carcinoma—is, however, such that it suggests the existence of some sort of interaction between carcinoma and the skotographic property of the liver. On the other hand, we may be quite wrong in considering carcinoma as a single condition relative to the two sexes; it has already been shown that male and female carcinomatous materials differ in skotographic power.

The only condition in which a thoroughly satisfactory determination can be made of the influence of carcinomatous growth upon the skotographic power of the tissue in which it lies is that in which one of paired organs is the seat of metastasis. This is relatively so uncommon, and when it occurs the chance that the metastasis will be sufficiently large to influence the neighbouring tissue of the organ to any extent is so small that I have only obtained a single example. The case was one of carcinoma of the cervix, and one kidney was the seat of a fairly large number of metastases, while the other was free. The renal substance of the unaffected kidney had a skotographic power of 3, while the renal substance of the affected kidney was absolutely without effect upon the photographic plate. This case, therefore, conformed to the statement made above for the liver that, in the female, carcinoma leads to a diminution of the skotographic power of the tissue in which it lies.

Substances commonly supposed to be causally related to Carcinoma.

Numerous samples of clay pipe, soot, pitch, paraffin wax, metallic arsenic, arsenious oxide, betel nut, cholesterin gall stones, pigment gall stones, renal and vesical calculi, have been examined skotographically, the calculi, renal, biliary, and vesical, being made the subject of an extended research by Dr. Colwell.[2] Skotographic effect was exhibited by one sample of soot out of two examined, by betel nut on all of numerous occasions, by each of twenty-three specimens of cholesterin gall stone, more or less "pure," in three out of four samples of pigment gall stones examined, the effect being always very slight as compared with the action of the cholesterin calculi, and by thirty out of thirty-eight vesical calculi. Metallic arsenic and arsenious oxide produced effects upon the photographic plates, but inasmuch as the films showed alteration before development the action cannot be regarded as skotographic. On the other hand, none of nine specimens of clay pipe, of numerous samples of paraffin wax, of four samples of pitch from different localities, of several specimens of coal, yielded the slightest trace of skotographic action.

In the case of cholesterin gall stones the action on the plate extends widely beyond the area of the surface of the calculus in contact with the plate, but in the case of all the other substances the area of silver deposition was coextensive with the area of contact between substance and film. This is well seen in the skotographs of vesical calculi, in which rings of silver deposition alternate with rings of no deposition in such a way that a picture is formed of the surface of the calculus by which the skotograph was produced (Fig. 5). When the nucleus of a calculus, or certain laminae, or the entire calculus consists of "pure uric acid," the corresponding part of the film shows a complete absence of skotographic effect. As a rule, calculi or laminae in calculi consisting of ammonium urate, calcium oxalate, calcium phosphate, or ammonio-magnesium phosphate possessed skotographic power; but since instances to the contrary were found Dr. Colwell concluded that the chemical substances in question, *as such*, were not the effective agent. Similarly he found that purified cholesterin obtained from a gall stone which produced a profound effect upon a photographic plate was itself entirely devoid of skotographic power.

Skotographs of betel nut are of especial interest in connexion with the observation made by Dr. Russell, F.R.S.,[3] that almost all varieties of wood affect a photographic plate when placed in contact with it under conditions of total darkness—that is, possess skotographic powers. This power is possessed by the winter and spring woods in different degrees, so that a skotograph of a piece of wood reproduces a picture of the grain of the wood in the same way as a skotograph of a vesical calculus reproduces the appearance of the cut surface of the calculus. Similarly a skotograph of a bisected betel nut shows the peculiar markings of the nut in all their detail (Fig. 6).

LECTURE II.

THE NATURE OF SKOTOGRAPHIC ACTION.

RUSSELL'S researches upon the effect of various woods upon a photographic plate in the dark led him to the conclusion that the deposition of silver is occasioned by traces of hydrogen peroxide formed owing to oxidation of the terpenes and other resinous substances in the wood in the presence of moisture. This strictly chemical action, albeit produced by traces of hydrogen peroxide so minute as to be beyond detection by any other method, is distinguishable from the action brought about by ethereal vibrations, such as those of beta or gamma rays, by the fact that it is completely inhibited by interposing a thin screen of mica between the wood and the film. Russell showed, further, that wood which had been exposed to strong sunlight before being placed in contact with the photographic film produces a far stronger effect than wood which has been kept in the dark.

Under these circumstances it became necessary to determine as far as possible with what constituent or constituents of the animal tissues their skotographic power was bound up, and subsequently whether that power conformed more to the type of a chemical substance, and particularly to hydrogen peroxide, or more to that exerted by ethereal vibrations.

It must be stated at the outset that a complete answer cannot be given to the above questions. It can rather be said what the skotographic power is *not* bound up with than what it *is*. Similarly it will be found that it is impossible to include it definitely in the chemical or the physical group of phenomena, since in certain respects it appears to resemble hydrogen peroxide and in others to resemble an ethereal vibration.

Attempts at Isolation of the Skotographic Substance.

The skotographic substance, or substances—for there is reason to believe that, in the liver at least, two substances exist which differ from one another in certain reactions but agree in affecting a photographic plate in the dark—is not protein, or fat, or carbohydrate, or colouring matter or mineral salts. Each of these constituents of the tissues has been definitely excluded. It is unnecessary to enter into a detailed account of the method in which this has been done, for it has been recorded elsewhere.[4] The following short account will suffice.

That it is not *protein* is indicated by the fact that it is yielded by liver, for example, and not by spleen, while the same fact shows that it is not dependent upon the "cellularity" of the tissue as such. But the non-protein character can be shown by obtaining a completely protein-free extract of the tissue, and proving that this extract still possesses skotographic power. Fig. 7 shows that this is the case. It was produced in the following way: Liver of sheep was minced and allowed to stand under distilled water for eighteen hours. The watery extract was then acidified, boiled, and filtered. To the filtrate three times the volume of basic lead acetate in solution and suspension was added, and the resulting precipitate was filtered off. Then sulphuretted hydrogen was passed through the filtrate to precipitate the lead, and after the filtrate from this operation had been concentrated to small bulk upon a water bath it was added to twenty times its volume of absolute alcohol and allowed to stand for three weeks. The merest trace of precipitate was formed, and was filtered off, and the alcohol was removed by evaporation. The residual fluid was then used to write certain words on a plain glass plate with a camel-hair pencil, and this plate was exposed to the photographic film under skotographic conditions and separated from contact with the film by strands of cotton. It is seen that this watery extract of liver, in which none of the laboratory tests for protein shows the slightest trace of that material, possesses intense skotographic power. The process for

purification from protein has been checked at every stage, as well as the reagents used, and it is certain: (1) That the skotographic power is not introduced during the process, and (2) that the various precipitates formed are devoid of skotographic power, except in so far as they are contaminated with the corresponding filtrate.

That the skotographic substance is not *fat* as such is shown by the fact that a material which has been rigidly extracted with ether still possesses skotographic power. Thus, all the powdered tissues that were used to arrive at the conclusions given in the first lecture were extracted with pure ether in a Soxhlet apparatus for a minimum of six hours before being examined skotographically. This method extracts the phosphorized as well as the non-phosphorized fats.

Just as the watery extract of a liver, for example, possesses skotographic powers, so it is possessed by an ethereal extract. Into the question of the actual constituent of the ethereal extract which possesses the power it is impossible for me to enter. The chemical analysis I have not attempted, owing to its difficulty.

That the skotographic substance is not *carbohydrate* as such is proved by the facts that some of the extracts by which it is manifested contain carbohydrate while others are devoid of it, that it is manifested by ethereal extracts, and, as will be shown later, that it survives charring.

The fact that the skotographic power is independent of the water-soluble and the ether-soluble *pigments* of the tissue is shown by the persistence of effect if one of these extracts be decolorized by finely divided animal charcoal.

And, finally, that it is independent of the *mineral constituents* of the tissue—at least those which survive a temperature of 300° C. (see below)—is shown by the fact that the ash of a tissue which possesses marked skotographic power is entirely without effect upon a photographic plate in the dark.

The skotographic power of any tissue is completely removed if it be first extracted with water and subsequently with ether. This appears from the accompanying figure (8), in which the upper fourth shows the effect of the original substance, the second fourth shows the effect of a watery extract, the third that of an ethereal extract made subsequently to the watery; the bottom fourth, over which there is an absence of skotographic action, was exposed to the solid residue after the watery and ethereal extractions. A similar absence of skotographic power characterizes a tissue which has been extracted with acetone, as might be expected, since it dehydrates and also extracts fat.

Just as the skotographic power is contained in the watery and ethereal extracts so it is contained in one made by acetone, and by evaporating with care the constituents of the original skotographic material which are soluble in water and those which are soluble only in strong acetone may be divided. They are apparently the same as those which are contained in the watery and ethereal extracts when these are made separately

But though it is clear that the skotographic power is not a property of protein as such, there is no doubt that it is a property of certain organic substances, as distinguished from inorganic, that are probably derived from protein. As will be said later the skotographic power is not destroyed even though the substance manifesting it be heated to a temperature of 300° C. Such a temperature chars the substance, and no doubt breaks up much of the protein, but from it a material, often of polymorphic crystalline character, but highly deliquescent, can be separated which exerts a skotographic effect, and which is still organic in nature, as shown by the fact that it chars on further heating. By repeated solutions in water and precipitation with absolute alcohol this crystalline material can be divided into a honeylike non-crystallizable and a colourless crystallizable portion. The skotographic power resides chiefly, if not entirely, in the honeylike, highly deliquescent material. This material is dialyzable with ease, and carries with it the actual skotographic substance. Further than this analysis has not gone.

CONDITIONS DETERMINING THE MANIFESTATION OF SKOTOGRAPHIC POWER.

It has been shown above that I have not succeeded in isolating the skotographic substance, though it has been stripped of certain materials with which it is usually associated. It has therefore been necessary to investigate the skotographic property upon crude material, and for this purpose the ether-extracted, dried, and powdered original material and watery extracts that have been freed from protein in the way already described, have chiefly been used.

DESCRIPTION OF PLATE.

Fig. 1.—Skotograph of dried, powdered, ether-extracted, non-malignant liver.

Fig. 2.—Skotograph of pure cholesterin gall stone. Action occurs well beyond the limits of the calculus.

Fig. 3.—Skotograph of dried, powdered, ether-extracted primary spheroidal cell carcinoma of breast.

Fig. 4.—Skotograph of dried, powdered, ether-extracted pulmonary metastasis from a case of spheroidal cell carcinoma of the breast.

Fig. 5.—Skotograph of a mixed phosphatic and uratic calculus.

Fig. 6.—Skotograph of a section of a betel nut, The dark crescent was at the seat of a film of celloidin two years old.

Fig. 7.—Skotograph produced by a protein-free watery extract of sheep's liver. Material prepared and skotograph taken March 24th, 1908. Compare with Fig. 10.

Fig. 8.—Skotograph showing that the power of affecting a photographic plate in the dark manifested by dried, powdered, non-malignant liver (top quarter) is entirely removed (bottom quarter) by extraction with water and subsequent extraction with ether. The extracts possess strong skotographic power.

Fig. 9.—Skotograph showing that the effective agent in cedar-wood oil can be transported in a current of air. The air impinged on the photographic plate at the apex of the triangle of silver deposition.

Fig. 10.—Skotograph taken with protein-free watery extract of sheep's liver used to produce Fig. 7 over a year after its original preparation.

Fig. 11.—Skotograph of a phosphatic calculus removed by Percival Pott (died 1788).

Fig. 12.—Skotographs on Ilford *x*-ray and on Imperial special rapid plates produced by the same sample of dried, powdered, ether-extracted carcinoma material under identical conditions. Compare with Fig. 13.

Fig. 13.—Skotograph on Ilford *x*-ray and on Imperial special rapid plates produced by the same sample of sawdust under identical conditions. Compare with Fig. 12.

Fig. 17.—Skotographs of dried, powdered, and ether-extracted testis and ovary of herring. The testis produces the greater deposition of silver. (This specimen will be referred to in Lecture IV.)

Relation of Substance to the Photographic Film: Contact: Proximity: Screens.

All the photographic effects to which reference was made in the first lecture were obtained by allowing the powdered substances to lie in actual contact with the photographic film, but there is no doubt that they can act at a little distance. This is better seen in considering the watery extracts, for when they were under investigation contact with the film was necessarily excluded. Attempts were made to determine the maximum distance at which recognizable photographic effect is produced by exposing a glass plate bearing the watery extract to the photographic plate at an angle. In this way, and using photographic plates specially sensitized for *x* rays, it was found that the watery extract used for producing Fig. 7 is still effective when it is separated from the film by a distance of 15 mm.

The question of screens between the material and the photographic film is one of fundamental importance in trying to arrive at a conclusion as to the nature of skotographic action, and must, therefore, be dealt with in some detail.

It may be stated at the outset that interposition of a screen of the order of thickness of that used in examining the effects of recognized radio-active materials such as uranium or thorium between the animal substance under investigation and the photographic film completely eliminates skotographic action. This is true whether the screen be metallic (for example, aluminium) or non-metallic (for example, mica), however intense the skotographic action may be in the absence of a screen, or however long (up to six weeks) the exposure may have been, and even though it had been carried out at 55° C.

On the other hand, the matter is not simple, as the following experiments show:

If a flat section of a betel nut or of liver be coated with a thin film of celloidin and the whole be exposed to a photographic plate in the ordinary way, it will be found that the greatest deposition of silver occurs on that part of the plate which was separated from the substance by the celloidin. That this effect is not due to the celloidin itself is shown by the fact that an old film of celloidin is entirely without skotographic effect, and in the betel nut experi-

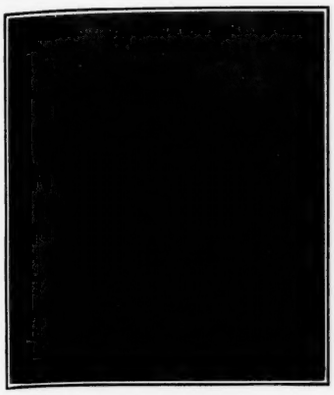

Fig. 1.

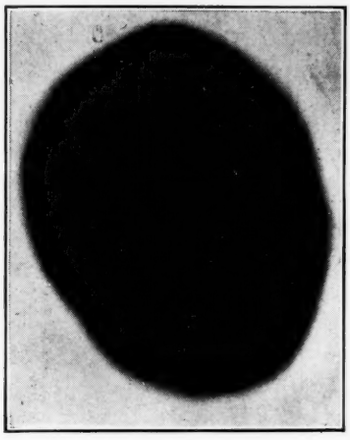

Fig. 2.

Fig. 3.

Fig. 4.

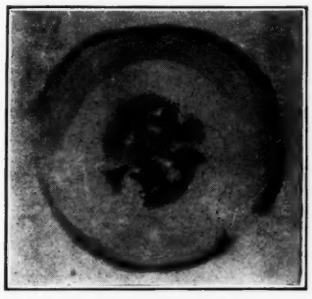

Fig. 5.

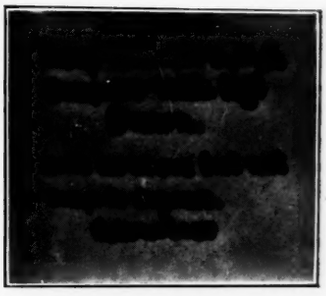

Fig. 7.

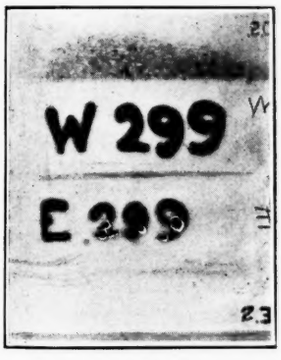

Fig. 8.

Fig. 6.

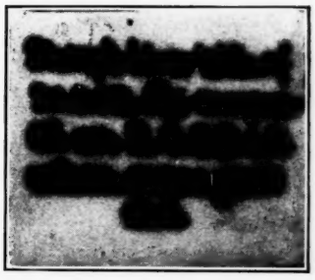

Fig. 10.

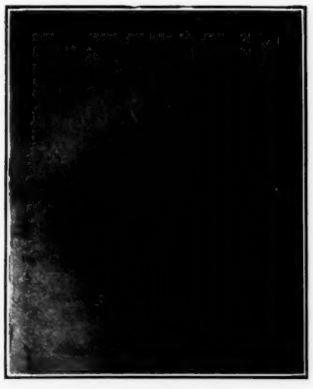

Fig. 9.

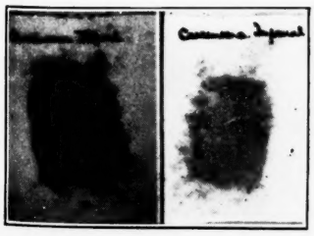

Fig. 12.

Fig. 11.

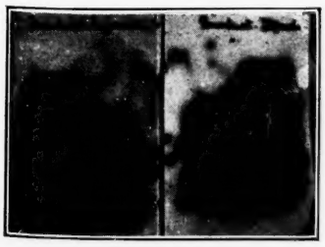

Fig. 13.

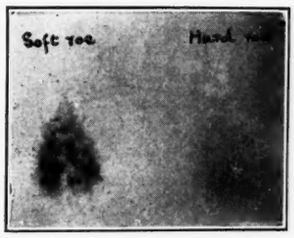

Fig. 17.

ment the celloidin had been painted on the nut two years before it was exposed to the photographic plate (Fig. 6).

In the second place, if an albuminate of thorium be made by allowing a solution of the nitrate to fall into egg-white, the resulting precipitate after drying and powdering fails to affect a photographic plate through a film so thin as that produced by brushing a minute quantity of egg-white over tissue paper, though a fair deposition of silver occurs when the albuminate is separated from the photographic film by tissue paper uncoated with egg-white. Such an albuminate of thorium contains about 10 per cent. of the radio-active element by weight. Even in this case it is possible that such direct skotographic effect as was produced was due to uncombined radio-active salt, since the precipitate was not washed for fear of hydrolysis. In several instances, where the precipitate with thorium was washed thoroughly with hot water before drying, it failed to produce an effect upon the photographic plate even though it were actually in contact with it during exposure; nevertheless, such samples of albuminate showed the presence of considerable amounts of thorium on analysis.

Hence under special conditions a vegetable or animal tissue may produce skotographic action through a thin film of celloidin and a recognized radio-active substance may fail to affect a plate through a film of egg-white of probably even a greater tenuity.

Effect of Temperature.

Within the limits of −3° C. and 100° C. it may be said that the skotographic action of the tissues is independent of the temperature provided that the exposure be longer at the lower temperatures. Thus a degree of silver deposition which can be attained by exposing a cholesterin gall stone for eighteen hours at 55° C. to the photographic plate can only be obtained after an exposure lasting for weeks at the room temperature, and probably for several months in the ice chamber at −3° C. Exposure of the substance to a plate at a dry heat of 100° C. is an unsatisfactory procedure, but if the exposure be shortened to about half an hour, silver deposition is not general, but is confined to the part with which the substance under investigation was in contact. The general temperature at which the skotographs in this research were taken was 55° C., and the length of exposure was eighteen hours. Except in certain cases, Imperial special rapid plates were used, and development was by 1 in 20 Rodinal.

I have dealt above with the temperatures at which the substance has been exposed to the photographic plate, but the substance itself may be exposed to a much higher temperature without undergoing complete loss of skotographic power. I have not been able to determine with exactness the highest temperature to which a skotographic substance may be raised without undergoing complete loss of its power; but it is certain that a skotographic watery extract painted in a thin layer upon a No. 1 coverslip and exposed to dry air at about 280° C. for five minutes will probably afford evidence of skotographic power, while a similar coverslip exposed to about 300° C. will not. In any case it is certain that the skotographic power is not destroyed by a temperature (about 200° C.) which chars the substance itself and therefore in large measure disintegrates it.

Light and Darkness.

Leaving on one side such points as the fact that the change in the photographic plate is not due to the hygroscopic character of the partially purified skotographic substance, the gradual disappearance of the power on continued exposure to air, the curious way in which occasionally there occurs a recrudescence of skotographic power in a watery or acetone extract, the fact that the power is independent of the acidity, basicity, or neutrality of a watery extract—points which have been made the subject of many experiments and are of great theoretical interest—I pass to certain experiments instituted in order to compare the skotographic power of animal tissues with that manifested by woods and held by Russell to depend upon the presence of hydrogen peroxide.

Russell found that the skotographic power of a wood is profoundly influenced according as it has been exposed to light, and especially direct sunlight, or has been kept in darkness before exposing it to the photographic plate. If exposed to light, the skotographic power is always intensified; if kept in darkness, it is always diminished. In the case of animal tissues and of calculi of different kinds this point has been carefully investigated by myself and by Colwell respectively. We agree in finding that our substances do not show the slightest difference in skotographic power, even though they may be exposed to direct sunlight or be preserved in total darkness for a period of six months before placing them in contact with the photographic film.

Volatility.

Inasmuch as the skotographic power of an animal substance disappears after about a fortnight if it be exposed freely to air, it was thought that the effect might be due to some volatile product. Apart from the fact that it is difficult to imagine a volatile substance which can withstand a temperature of 300° C., below which the skotographic power is not destroyed, the question has been approached directly. By causing a current of air which had passed over cedar-wood oil, or clove oil, or oil of cajeput, or oil of origanum, to impinge upon a photographic film, it was found that volatility, as such, is not the effective cause of a skotographic effect since a skotographic effect was produced in the case of air charged with the volatile products of oil of cedarwood alone. Further, it has never been found possible to carry over the skotographic power of any of the substances used in the present research although they frequently give off volatile products with powerful odours that can be detected in the stream of air impinging upon the photographic film by the sense of smell. Fig. 9 shows the skotographic effect of a current of air charged with the volatile products of cedar-wood oil.

Is Skotographic Action essentially due to Hydrogen Peroxide?

The experiments made bearing on this question were of two kinds. In one set Colwell took a cholesterin gall stone, which yielded a profound skotographic effect, and prepared from it a sample of purified cholesterin. Examined skotographically, this purified cholesterin was absolutely without effect. He now exposed a thin film (made by dissolving cholesterin in chloroform, pouring it on a glass plate, and allowing the chloroform to evaporate) to an atmosphere fully charged with hydrogen peroxide vapour for twenty-four hours at a temperature of 53° C. Similarly he exposed to hydrogen peroxide vapour a vesical calculus normally possessing no skotographic power. He found that now both cholesterin and vesical calculus affected the plate profoundly, but that within twenty-three hours of their removal from the atmosphere of hydrogen peroxide they had completely regained their original freedom from skotographic power. Probably the last traces of hydrogen peroxide had disappeared long before twenty-three hours, but of this there is no proof. This experiment bears upon the length of time during which skotographic power is held by a substance—a subject which will claim our attention shortly.

The second set of experiments concerns the so-called peroxydase effect shown by certain tissues. In its best-known form the peroxydase reaction is represented by the guaiacum test for blood. It depends upon an oxidation of the traces of guaiaconic acid present in the freshly-prepared tincture of guaiacum by oxygen that has been set free from hydrogen peroxide by a substance (peroxydase) present in the substance undergoing the test.

In examining a large number of dried and powdered tissues from this point of view, as well as from that of their skotographic power, I found, speaking generally, that the degree of peroxydase reaction manifested by them and measured against a standard graduated series of blue solutions, varies inversely with the skotographic power.

Table showing Results in Two Series of Ten Consecutive Specimens.

No.	Tissue.	Photographic Value.	Peroxydase Value.	No.	Tissue.	Photographic Value.	Peroxydase Value.
220	Kidney	6	0	320	Liver	6	2
221	Lung	4	6+	321	Kidney	3	4
222	Liver	3	5	322	Liver	5	3
223	Kidney	4	0	323	Kidney	3	5
224	Lung	2	4	324	Liver	5	0
225	Spleen	3	6 +	325	Kidney	2	6
226	Liver	4	0	326	Liver	4	1
227	Kidney	2	0	327	Kidney	2	4
228	Spleen	2	4	328	Liver	3	5
229	Lung	0	2	329	Kidney	2	6

This fact would seem to indicate that a tissue possessing a large amount of a substance which splits up hydrogen peroxide has but little skotographic power, and conversely that a substance exerting a great skotographic power contains but little of the hydrogen peroxide splitting property. From this it is but a step to the conclusion (with Russell) that the skotographic property is in reality nothing more than a manifestation of the action of hydrogen peroxide upon a photographic plate.

But that this conclusion is not justified is shown by two sets of observations.

First, I have found that skotographic effect may be shown by watery extracts which from beginning to end of their exposure to the photographic plate contain peroxydase and are therefore in a condition to split up any hydrogen peroxide that may be formed immediately on its production. And secondly, the inverse relations of peroxydase and skotographic power do not obtain for dried and powdered carcinomatous material, for such material, whether it produce a great skotographic effect, or a slight one or no effect at all, is devoid of peroxydase. Amongst seventeen samples of dried and powdered carcinomatous material examined for the purpose only four contradictions were found. One of these is explicable by the fact that the growth was a pulmonary metastasis, and probably contained some pulmonary tissue which has, normally, a high peroxydase coefficient, and the remaining three, all of which were hepatic metastases, gave the least recognizable amount of peroxydase.

Duration of Skotographic Power.

Strictly speaking, the length of time during which a substance retains skotographic power can only be determined in the case of such materials as have actually been prepared. Thus, the material used in the production of Fig. 7 was prepared on March 24th, 1908, and inasmuch as a skotograph taken with the same substance a year later (Fig. 10) also shows effect, it is clear that the substance in question retained the power for that length of time. Numerous skotographs taken at intermediate times showed that the power was present throughout.

From the time of its preparation the substance was kept in a clear stoppered bottle in the laboratory without any special precautions. This experiment renders it probable that a substance which at any time shows skotographic power also possessed it at the time of its original formation, and this assumption becomes of importance in connexion with the skotographic power of calculi. Colwell has shown that cholesterin calculi will often produce intense skotographic action directly after their removal from the body, but he has also shown that intense skotographic power may be shown by a cholesterin gall stone that had been preserved in the museum of the hospital for over twenty-five years. In the case of vesical calculi he goes much further; for a calculus removed by Percival Pott, who died in 1788, shows well-marked skotographic power (Fig. 11), and faint but definite skotographic power is shown by a calculus removed from the body of a predynastic Egyptian mummy, and therefore at least 7,000 years old.*

Use of Photographic Plates Specially Sensitized for X-ray Work.

Recently plates have been put upon the market which are specially sensitized for *x*-ray work. It was thought that a series of comparative tests of the same substances, when exposed to these and to ordinary plates, might indicate whether the skotographic power of the substance under examination was more akin to light or to *x* rays. Dried, powdered, and ether-extracted carcinomatous material from a metastasis in the liver and ordinary deal sawdust were examined in this way. It was found that the first appearance of action on the *x*-ray plate occurred at the end of the sixth hour of exposure, and on the Imperial special rapid plate not till the end of the seventh hour (the powdered growth being separated from the photographic films by thin layers of filter paper), and that the ultimate density of silver deposition was greater also on the *x*-ray plate. When the material was not separated from the photographic film by filter paper, the first appearance of action was observable on both plates at the end of the first hour of exposure; but whereas it was quite marked on the *x*-ray plate, it was only just distinguishable on the other. In the case of sawdust these differences did not show themselves, the deposition of silver on the ordinary plate being very nearly, though not quite, as intense as that on the *x*-ray plate (Figs. 12 and 13).

Skotographic Action of Bacteria.

MacCormac[5] has published the results of an investigation into the question whether skotographic action is exerted by bacteria. He examined in this respect 27 different varieties of micro-organism, and from his table they may be grouped as below:

GROUP I. NO SKOTOGRAPHIC ACTION.

B. Rabinowitch, B. Cohn I, B. Gärtner, B. phosphor. albiensis, B. intestinalis sporogenes, B. Danysz, B. mycoides, B. coli, V. cholerae.

GROUP II. SKOTOGRAPHIC ACTION FICKLE.

Sarc. flava, B. Flexner, V. Metchnikovi, B. Hoffmann, B. megaterium, M. citreus agilis, B. pyocyaneus, B. phlei II, B. prodigiosus, B. typhosus.

GROUP III. SKOTOGRAPHIC ACTION USUAL AND CONSIDERABLE.

Staph. pyogenes aureus, Staph. pyogenes albus, B. tuberculosis, B. tuberculosis bovinus, B. diphtheriae, "pathogenic throat yeast."

The importance of these researches will be indicated later.

SUMMARY.

In this and the preceding lecture I have shown that certain of the tissues of the human body show skotographic action (liver, kidney), while certain do not (spleen, lung); that a larger amount of this property resides in female tissues that possess it than in male of the same kind; that the amount present in the liver increases from infancy to the age of 55 years, with an unexplained drop in both sexes during the age-period 35–45, and that after 55, while it increases still further in the case of males, in females it undergoes a sharp diminution. I have shown that carcinomatous material possesses skotographic power, whether it be primary or secondary, and that female carcinomatous tissue has a higher skotographic value than male; and that the existence of a mass of carcinoma in a tissue modifies its normal skotographic value. I have found that certain substances commonly supposed to be causally related to carcinoma possess the skotographic power to a high degree (cholesterin gall stone), while others are devoid of it (clay pipe, paraffin). I have endeavoured to throw some light upon the nature of the skotographic action manifested by animal tissues and certain other substances, comparing their behaviour with that of woods in which the action has been regarded as dependent upon the formation of hydrogen peroxide, and with that of recognized radio-active substances. On this point I have adduced evidence showing that the animal tissues and other substances under examination cannot, so far as their action upon a photographic plate in the dark is concerned, be grouped conclusively with the recognized radio-active substances or segregated into a class such as that formed by the woods, and believed by Russell to affect a photographic plate in the dark by means of a purely chemical action. They occupy an intermediate position and have affinities with the woods on the one hand, and with the recognized radio-active substances on the other. Lastly, MacCormac, working in my laboratory, has shown that bacteria may be divided into groups according to their skotographic power, and that the only group which acts in this way with constancy and to a marked degree is a small one, which includes the pyogenetic staphylococci and the bacilli of tuberculosis and diphtheria.

The bearing of these observations upon the question of carcinoma must bel eft for consideration in the last lecture.

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*This calculus is preserved in the Museum of the Royal College of Surgeons, and was kindly lent by Mr. Shattock. Owing to its unique character, it was impossible to deal with it as with other specimens. Hence a flat surface could not be placed in contact with the photographic film. The original skotograph was shown during the lecture, but the markings, though definite, are too faint for reproduction in a plate without retouching, which is, of course, inadmissible.

A Lecture

ON THE

RED DEGENERATION OF UTERINE FIBROIDS COMPLICATING PREGNANCY.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, MAY 5TH, 1909.

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OF all the genera of tumours to which women are liable, the uterine fibroid is the most common, and there is no genus of tumours which has such a definite age-distribution. Though the uterine fibroid is such a common tumour, like pregnancy, it only arises during the menstrual period of life, which in Great Britain covers an average period of thirty years, from the fifteenth to the forty-fifth. There is, however, this difference—from the twentieth to the thirtieth year pregnancy is extremely common, the occurrence of a large fibroid uncommon. From the thirtieth to the forty-fifth year women are as liable to grow uterine fibroids as to become pregnant. The interval between the twenty-fifth year and thirty-fifth year of a woman's life may be regarded as the great child-bearing period (Matthews Duncan). It is clear that in the interval between the thirtieth and fortieth years of life there is so much overlapping of the child-bearing period and the fibroid-growing period that the co-existence of pregnancy and one or more fibroids in the uterus ought to be fairly frequent; such is indeed the case (see table). In relation to the frequency of this combination, which, as I shall endeavour to show, is a piece of ill luck for any woman, we have to remember that uterine fibroids are quite as common in spinsters as in married women, and it is a fact that among barren married women fibroids are very common; and although those who practise midwifery cannot come to an agreement as to whether fibroids cause sterility, or sterility causes fibroids, women with fibroids often conceive. Pregnancy under such conditions often goes successfully to term; frequently it is a serious matter for the patient, especially if she be a primigravida who has married late in life and possesses a large fibroid in the lower segment of her uterus, or in its neck.

In this lecture it is my intention to deal with the influence which pregnancy exerts on the fibroids. The baneful effects which fibroids exercise on the fetus, especially those connected with delivery, are for the greater part mechanical, and will not be considered. The dangers to the mother constitute my theme on this occasion.

In order to realize the disturbance which pregnancy induces in uterine fibroids, we should remember that in a normal adult virgin the uterus is on an average 3 in. long, its wall is 1 in. in thickness, and the uterine cavity measures from the "os" to the fundus 2½ in., and the whole organ weighs between 2 and 3 oz. The pregnant uterus at term is about 13 in. long, with walls ½ in. thick; it weighs between 2 and 3 lb.; its capacity varies from 1 to 1½ gallons. At the full period of pregnancy it forms an ovoid muscular bag, the os uteri occupying the narrow end. These weights and measurements afford some notion of the extraordinary changes produced on the uterus by pregnancy.

The uterus differs from all other hollow viscera in the extreme thickness and rigidity of its walls. From the histologist's point of view it would appear to be the last organ in the body whose tissues would yield to an expanding force within, and gynaecologists sometimes appreciate this when they attempt to forcibly dilate it with hard metal instruments.

There are few physiological events so clearly appreciated as the simple, easy, and rapid way in which the uterine walls soften, stretch, and increase in size under the mysterious influence of an embryo growing within it. The changes may be expressed as increased vascularity, multiplication of the muscle cells, and softening of the uterine tissues.

When the walls of the uterus are occupied with fibroids and pregnancy ensues, it is undeniable that these tumours, depending as they do on the circulation of the uterus for nutrition, are often influenced by the altered conditions. The changes wrought in them by pregnancy have been described by many writers as consisting in the softening and flattening out of interstitial fibroids; also that the tissues of these tumours multiply with the growth of the uterus coincident with pregnancy. Indeed, this supposed active growth of fibroids during pregnancy appeared to receive support by the fact, noted by many writers, that the tissues of fibroids lodged in a pregnant uterus often became red or flesh-coloured; this alteration in colour was supposed to be due to an increase in the muscular tissue of the tumour. Some observers attributed the alteration in colour to increased vascularity of the tumour, and others to actual bleeding into its tissue, and it seems somewhat odd that no one endeavoured to determine the nature of this striking change with the assistance of a microscope. Several surgeons, myself among them, had given some attention to this alteration in the colour and texture of fibroids in the walls of pregnant uteri, and realized they were degenerative changes. I had even taken the trouble to have several examples examined bacteriologically, but with negative results. In 1903 Fairbairn made a valuable communication to the Obstetrical Society, London, entitled "A Contribution to the Study of one of the Varieties of Necrotic Change—the so-called Necrobiosis in Fibro-myomata of the Uterus," which served to focus attention on this subject, and, among other matters, points out that he had failed to find micro-organisms in these red fibroids, and that the red degeneration occurred in fibroids lodged in the unimpregnated as well as in the gravid uterus.

It may be stated at once that the occurrence of red degeneration of fibroids in non-gravid uteri is admitted by all gynaecologists, but it is equally true that the change is more frequent, more extensive, and more intensive when associated with pregnancy.

Another important feature accompanying the red degeneration of fibroids when associated with pregnancy is pain and tenderness. I appreciated this in the first examples of the condition which came under my notice, and have persistently called attention to its clinical significance. Before considering this symptom in detail, it will be useful to describe the alteration wrought in the fibroids when the subject of this change.

The ordinary colour of the common hard uterine fibroid on section is dirty white, or very pale yellow; in many degenerating and necrotic fibroids the yellow deepens. During pregnancy a fibroid may assume a deep red or a mahogany tint. In the early stages a tumour undergoing this change exhibits the colour in streaks, but as the pregnancy advances the whole tumour becomes affected, and in well-marked examples the whole fibroid softens and becomes diffluent. I have known such a softened tumour to rupture its capsule during the puerperium, and the red softened tissue to be discharged from the uterus in shreds (No. 2 in table); the medical attendant regarded this stuff as "retained secundines." In this instance the tissue was the colour of mahogany. Even in this fibroid no micro-organisms were detected in the bacteriological laboratory. This happened in 1901. The failure to find micro-organisms in these degenerating fibroids astonished me, especially as many of them immediately after removal exhale, on section, the peculiar odour of stale or putrid fish. On microscopic examination, the tissue of the fibroid is found to be necrotic, and refuses to stain; the characteristic redness is due to the diffusion of blood pigment through the necrosed tissues.

This softening of the tissue composing a uterine fibroid sometimes takes place with great rapidity, and reduces even the hardest (uncalcified) fibroid to the consistency of soft soap. Recently some new investigations on the nature and cause of this red degeneration have been published by Professor Lorrain Smith and Dr. Fletcher Shaw. They investigated with especial care four examples, of which three were associated with pregnancy, and in which the "outstanding clinical features were pain and rapid enlargement of the tumours." In two of the cases there were also symptoms of toxaemia. A study of the clinical history of the three pregnant women shows that it was chiefly on account of pain that they sought surgical assistance, and in each instance hysterectomy was performed with success. In the non-gravid patient hysterectomy became necessary mainly on account of menorrhagia, but in addition she complained of some interference

with micturition. The chief interest in Smith's and Shaw's communication lies in the opinions they express on the pathology of the change, and in the fact that they isolated from two of the specimens micro-organisms. In one they found staphylococci in the blood vessels and in another diplococci in the spaces round the vessels. These observers also express the opinion that "the chief change found in red degeneration of fibroids consists in thrombosis of the blood vessels." They also state their belief that tumours which have undergone this change "are liable to become infected by septic organisms, and so give rise to acute toxic symptoms."

I was deeply interested in reading an abstract of this paper,* and within a few days the following remarkable case came under my notice:

A primigravida, aged 31, two months pregnant, was suddenly seized with such acute abdominal pain during a railway journey, that she left the train at an intermediate station, and placed herself under the care of a doctor whom she knew. He considered the patient to be suffering from the bursting of a gravid Fallopian tube, and sent for me.

I saw her twenty-four hours after the onset of the symptoms, and found a large tumour, probably a fibroid, occupying the right half of the belly and reaching as high as the liver. I considered that some change had taken place in this tumour consequent on the pregnancy; it was also probable that it might be an ovarian cyst which had twisted its pedicle. The tumour was very tender and the patient very ill, with a pulse-rate of 112 per minute and temperature 100° F. I opened the abdomen; the tumour proved to be a large subserous fibroid with a thick stalk; the uterus was gravid, and as it contained several fibroids the size of golf balls, I removed it. The patient recovered. (Case 19 in Table.)

On examining the big fibroid in the course of the operation I noticed an area of softening about 5 cm. in diameter; it appeared as if acutely inflamed, and there were flakes of lymph over this soft area. On completing the operation I packed the uterus and its tumours into sterilized waterproof material, and on reaching London took it to the laboratory for investigation. When the large subserous fibroid was bisected, a pyriform patch of red softening appeared (looking exactly like an infarcted area) equal in size to one-third the total bulk of the tumour, the remaining tissue of which was very hard. The red area had become so soft that the finger could be pushed in with ease. Mr. Somerville Hastings undertook the bacteriological examination of the red tissue, and he succeeded in obtaining in pure culture *Staphylococcus pyogenes aureus*, and the method by which he effected this is set forth in his own words: "With a piece of iron heated to redness a linear sear some 3 in. or 4 in. long was made on the peritoneal covering of the fibroid. A scalpel sterilized by prolonged boiling was then taken and an incision made deeply into the tissue of the fibroid by cutting along the seared area. The cut edges were retracted, and two small pieces of tissue about the size of peas were removed by forceps and scissors, also sterilized by boiling, from the centre of the fibroid and dropped into two tubes of ordinary peptone broth. These were incubated at 37° C., and the next day staphylococci were obtained from both tubes. The staphylococci gave the staining and cultural reactions of *Staphylococcus pyogenes aureus*, and the cultures were shown to be pure by being plated out."

The interstitial fibroids showed the red changes in streaks, but no micro-organisms were isolated from them.

From the clinical standpoint red degeneration of fibroids associated with pregnancy is of great importance, and especially its influence in causing them to become tender and painful. It is necessary to emphasize the fact that these two signs—painfulness and tenderness—are only markedly exhibited by "red fibroids" when associated with pregnancy, and they are a source of errors in diagnosis. It is also necessary to state that pain is present only in the early stages of the degenerative process; when the tumour is completely disintegrated it is insensitive. This is illustrated by examples taken from the uteri of women after labour, in which the degenerated fibroid is so soft that the finger can be pushed into it easily and painlessly; but these softened submucous tumours set up profuse bleeding from the uterus and place the patient's life in great peril. This is a matter of some importance, because to my mind it is an explanation of the ready way in which submucous fibroids complicating pregnancy so readily become septic during the puerperium and entail a long and dangerous illness, which often terminates in the death of the patient unless the nature of the case is recognized and the peril averted by a timely hysterectomy.

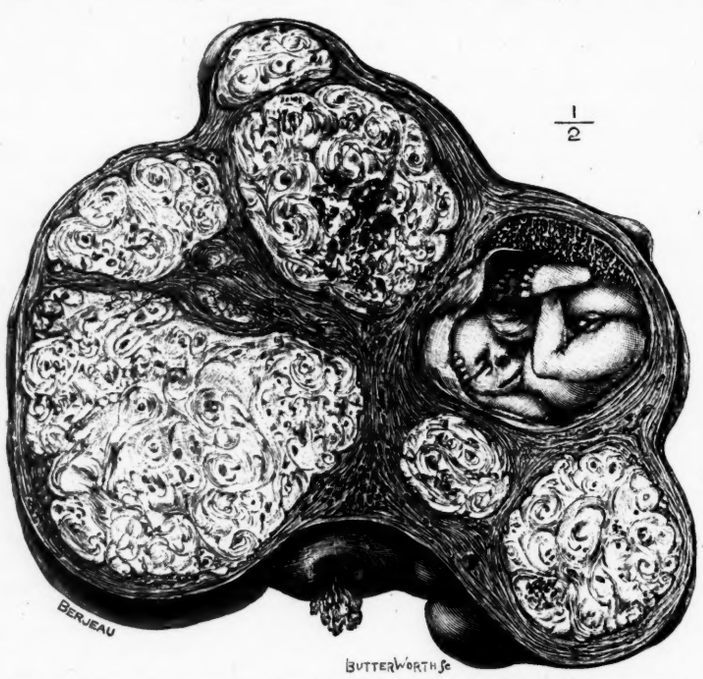

Fig. 1.—Uterus distorted with fibroids and containing a fetus of four months' development. From a primigravida aged 43. She recovered easily and quickly.

A uterus may contain many fibroids in its walls, yet only one will exhibit this red change and become acutely painful whilst its companions remain colourless and insensitive. In one instance a uterus in which the pregnancy had advanced to the end of the second month contained seven fibroids varying in size from a golf ball to a duck's egg; three of them exhibited the red change.

The remarkable feature of the pain accompanying red degeneration is the suddenness of its onset. It is so sudden and severe that it resembles the pain experienced by patients when an ovarian tumour undergoes acute rotation and twists its pedicle, or the shock produced by the bursting (or abortion) of a gravid Fallopian tube. It is true that, in very many instances in which operations have been performed for fibroids complicating pregnancy, they were recommended and carried out on the notion that the patients were suffering from an ovarian cyst which had twisted its pedicle, or rupture of a gravid tube. In 1901 I published a table of 8 cases in which submucous fibroids had been removed from the walls of the gravid uterus on account of continuous pain, and in all the cases the operation was undertaken on an erroneous diagnosis. In many cases the fibroid was regarded as an ovarian cyst which had twisted its pedicle; in some a pyosalpinx; in others a gravid tube which had burst, for it must be remembered that the uterus and one of its Fallopian tubes occasionally become gravid simultaneously (compound pregnancy). It is only necessary to read carefully the "reports" of red fibroids communicated to the Obstetrical Section of the Royal Society of Medicine to learn not only how frequently the change occurs in fibroids complicating pregnancy, but how it produces symptoms which mimic those caused by the axial rotation of ovarian

* The complete paper is published in the *Journal of Obstetrics and Gynaecology of the British Empire*, April, 1909.

tumours, or the bursting of a gravid Fallopian tube, so that the most experienced practitioners of midwifery are often deceived.

The condition is being better recognised by obstetricians. It is clear that when a uterus beset with fibroids becomes gravid, the fibroids do not, as some believe, enlarge in consonance with the physiological increase of the normal muscular tissue of the uterus. That some of the fibroids enlarge is beyond doubt, but this is the result of interference with the circulation in these tumours producing oedema and colour change due to haemolysis of the blood, not to a rapid increase of muscular tissue, as so many writers have erroneously asserted. This is another illusion swept from obstetric art by careful microscopic inquiry. The student need only study the conditions which exist in the uterus depicted in Fig. 1 to appreciate the disturbance which the growth of the fetus must have produced in the "constellation of fibroids" by which it is surrounded. I removed that uterus from a primigravida, aged 43, on account of pain, realizing that she was pregnant, and that the acute pain and suffering which caused her to seek surgical aid were due, in all probability, to red degeneration of an interstitial fibroid, which could be felt as a tender uterine prominence in the hypogastric region. One tumour only in this uterus showed the red change; its companions exhibited the usual greyish-white tint common to hard fibroids.

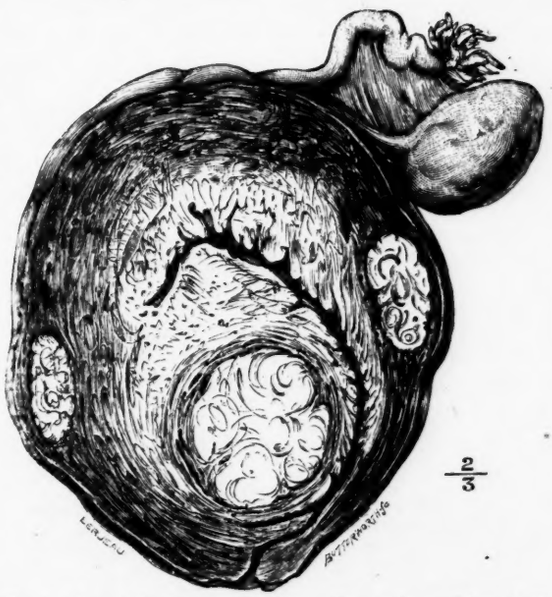

Fig. 2.—A gravid uterus in section. The walls were beset with fibroids. The fibroid shown in section is submucous, and its capsule is covered with a thick layer of decidua. From a primigravida, aged 35, and about two months advanced in pregnancy.

It may interest you to know that even with the knowledge that the occurrence of red degeneration will produce pain, sudden and acute, like that accompanying rupture (or abortion) of a gravid tube, it is easy to make an erroneous diagnosis. The uterus represented in section in Fig. 2 illustrates this very well. I removed it from a primigravida aged 35, who had lived in sterile wedlock fifteen years. After over-running two menstrual periods she had a sudden attack of bleeding and painful seizures, which led the doctor to think that a miscarriage was impending. The bleeding continued, and at the end of three weeks the patient was placed under chloroform with the view of emptying the uterus, but a definite swelling could be felt in the right half of the pelvis which so simulated a gravid Fallopian tube that operative interference was deferred. Eventually the patient came under my care; the signs and symptoms accorded best with tubal pregnancy. Coeliotomy was performed. I found a gravid uterus containing many fibroids. A subserous fibroid as big as a bantam's egg and occupying the fundus of the uterus had swollen in consequence of red degeneration and split its capsule. There had been some bleeding into the abdomen, but nothing serious. The uterus was removed and the patient quickly recovered. The condition within the uterus is worth consideration, for there is a submucous fibroid projecting into its cavity. This tumour shows no degenerative change, but, as represented in the drawing, its capsule is enveloped with a thick layer of decidua.

I am particularly desirous to point out that when pain and tenderness, due to red degeneration of a fibroid, are present in a mild degree, they generally subside if the patient be kept at rest in bed. It is only the very severe cases which call for surgical treatment.

It is perhaps worth mention that a tumour occasionally grows in the ovary, which in its naked-eye characters, and even in presenting a whorled disposition of its fibres, resembles the hard uterine fibroid. The microscopical features of the "ovarian fibroid" are indistinguishable from those exhibited by the common hard uterine fibroid. The ovarian fibroid is also liable to soften, to liquefy, and to calcify. As such a tumour may be met with at any age, from 17 to 77, it occasionally complicates pregnancy. An ovarian fibroid has been found incarcerated in the pelvis by a gravid uterus; when lying high in the abdomen above a pregnant uterus it has undergone axial rotation and twisted its pedicle, but in none of these adverse circumstances, so far as my experience shows, has red degeneration been observed. This is a matter worth attention from those who get the opportunity of examining such specimens, for if red degeneration is due to thrombosis, an ovarian fibroid with a twisted pedicle would be an ideal condition for its occurrence. I have on four occasions removed an "ovarian fibroid," each of which had been incarcerated by a gravid uterus, but none showed any signs of red degeneration.

In the early part of this lecture I mentioned, in referring to the overlapping of the child-bearing and the fibroid-growing period of a woman's life, that theoretically the coexistence of fibroids and pregnancy ought to be most frequent between the thirtieth and fortieth years. In order to test this I prepared the subjoined table, containing 20 consecutive cases of this unfortunate conjunction, which have come under my care since 1900.

The facts are significant, for the patients, with two exceptions, were primigravidae. These women had in most instances married late in life, or, if they had been married many years, there had been a long interval of sterile wedlock (in one instance fifteen years). The pregnancies, with two exceptions, occurred after the thirtieth year of life. In the case of the two multiparae

Table of Cases in which Fibroids coexisting with Pregnancy caused such Symptoms as to necessitate Surgical Interference.

No.	Social State.	Age.	Month of Pregnancy.	Operation.
1	S.	28	Third.	H.
2	M.	36	Puerperium	H.
3	P.	36	First	E.
4	P.	28	Third	E.
5	P.	32	Third	H.
6	P.	33	Seventh	T. H.*
7	P.	35	Fourth	H.*
8	P.	43	Fourth	H.
9	P.	40	Sixth	H.*
10	P.	33	Fourth	E.
11	S.	38	Fifth	H.
12	P.	35	Fourth	H.
13	P.	39	Second	H.
14	P.	44	Fourth	H.*
15	P.	35	Second	H.
16	P.	39	Fourth	H.*
17	M.	45	Puerperium	T. H.*
18	P.	41	Third	H.
19	P.	31	Second	H.
20	P.	35	Second	H.

P., Primigravida. S., Spinster. M., Multipara. H., Hysterectomy. E., Enucleation (abdominal).
* This signifies that the tumour was a cervical fibroid.

the fibroid in each instance caused such severe losses of blood during the puerperium that an operation became an urgent necessity.

I have tested these points by reference to other cases under my care, and the conclusions are confirmed, so there is no reason to encumber the lecture or the reader with a longer table.

My knowledge of this red change in fibroids of the uterus complicating pregnancy is founded on a study of thirty-two examples which have occurred in my practice.

I hold no opinion as to its cause. The presence of micro-organisms in the degenerated tissue is in all probability exceptional; the thrombosis and the infarction theories require more proof. The only facts established in regard to red degeneration of fibroids is its proneness to occur in them when the uterus is gravid. Fibroids so changed seriously menace pregnancy.

ON THE SPONTANEOUS RUPTURE OF CYST-ADENOMATOUS OVARIAN TUMOURS.

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THE main aim of this communication is to urge (1) that the primary cause of cyst rupture in cases of ovarian cyst-adenoma is tumour degeneration (necrosis), (2) that the rarity of cyst rupture in relation to the frequency of tumour degeneration is not inconsistent with the adequate vascular compensation almost invariably supplied by adhesions to the degenerated tumour, and (3) that these adhesions are simply reparative and are not, as generally stated, the result of peritonitis. The innocent leakage through attenuated and thin cyst walls, a common and normal occurrence, is distinguished from the rare rupture: on the absence in the former, or on the presence in the latter, of clinical manifestations is based a working distinction.

Case I.—A. H. A, Probe in Fallopian tube. B, Site of rupture.

Cyst rupture as an appreciable clinical and pathological complication is one of the accidents in a case of ovarian cystic tumour, and just as in a case of accidental haemorrhage during pregnancy, trauma, or violence in the history of its causation, is almost invariably wanting.

The records from the earlier and darker days of ovariotomy of sixty-six and eighty tappings of an ovarian cyst leave no doubt as to the healing power of the normal cyst wall.

Meredith[1] reported an exceptional result of tapping in a case of his which became famous as evidence of the vital activity and resistance of the peritoneum; in a single woman, aged 47, after one tapping the refilled cyst ruptured and reruptured, into the peritoneal cavity, thirty-four times, and on each occasion with local pain and subsequent diuresis. At the end of a ten years' history the ovarian cyst, containing 21 pints of fluid, was removed with success; only a few filamentous adhesions around the aperture of the original puncture were found during the ovariotomy by Meredith.

Sir Spencer Wells[2] discussed adhesions after tapping; he stated that they were most frequently absent, and that there were firm adhesions in some patients who had never been tapped; the mortality table of 500 cases after one to eighteen cyst tappings proved that tapping itself had little adverse influence on subsequent ovariotomy in his hands.

The revival of tapping is not to be desired. Sir Spencer Wells said that during later years he became more impressed with the danger of putrefactive changes after tapping without antiseptic precautions.

In the absence of infective organisms and of loose particles of growth capable of implantation, intraperitoneal cyst rupture—at the time unattended by serious haemorrhage—is of itself a harmless, or almost harmless, pathological process; but, inasmuch as the opening from a degenerated cyst is permanent, the contents continuously dribble without any barrier of defence such as is provided by the haematocele sac around a chronic tubal drip in a case of tubal mole. Hence, free intraperitoneal fluid (hydroperitoneum), devoid of any plastic properties, bathes on all sides the loose tumour.

Elsewhere,[3] Dr. T. E. Walker and myself reported on the invariable absence of hydroperitoneum when adhesions were universal, whether with innocent or cancerous tumours and after torsion of the pedicle.

Cancerous tumours as a rule degenerate earlier, and adhesions are, or rupture is, earlier and more frequent than with simple tumours.

Degenerative changes are the common exciting causes of adhesions. Cyst rupture does not occur at the site of adhesions, but through unprotected degenerated areas of cyst wall. In Case 153 in Sir Spencer Wells's table of 1,000 ovariotomies there were, to portions of the tumour, parietal and omental adhesions, and there was, over other non-vascular, central portions of degenerated patches, demonstrated in the same tumour, a covering of recent plastic exudate.

Where repair from without is defective the degenerated portions of the cyst wall may rupture. This is what had clearly taken place in the four cases of my series.

CASE I.—*The aperture of rupture measured ¾ in. by ½ in.: its edges were raised, everted, and adenomatous; the aperture led into a central cyst—half the size of the whole tumour—surrounded by tiers of small cysts; the small cysts contained thick, mucoid fluid. The whole tumour measured 7 in. by 7 in. by 3 in.; necrotic in many areas; two patches of adhesions to bladder and rectum denoted early degeneration before the tumour—then the size of an orange—ruptured (vide infra).*

A. H., aged 27; six years married; two children; each born by normal labour.

History.

Menstrual losses recurred fortnightly from the birth of the second child in August, 1906, to August, 1907—that is, for exactly one year; subsequent menstrual suppression continued for 16½ months; epistaxis is stated to have recurred frequently and irregularly during the menstrual suppression. Dr. James Utting of Preston, who sent the patient to me on January 20th, 1909, wrote: "The first abdominal pain, four months after the birth of her second and last child, was attributed to acute peritonitis; several weeks afterwards the abdomen was full of fluid; after tapping the abdomen, the tumour, the size of an orange, was felt; the intraperitoneal fluid reaccumulated with varying rapidity, and once there was a three months' interval between the tappings; latterly the large amount of over 2 gallons has been removed every fortnight or three weeks; the fluid has always been clear, pale in colour, and thin; specific gravity, 1005; only once a little blood was present; the oedema of the legs of a few months ago has not returned." The total number of tappings was fourteen.

Physical Examination.

January 20th, 1909. The abdomen had been tapped the previous day; 3½ gallons of fluid were then withdrawn. The flaccid state of the abdomen aided the palpation of the firmly cystic, lobulated, mobile tumour. The patient was feeble and emaciated; the flexure surfaces of her forearms were hollowed. Her strength was barely equal to the contemplated radical operation; she returned to Preston, in spite of entreaties not to waste time and not to allow the fluid to reaccumulate. She again came to Liverpool five days later and entered the Hospital for Women.

Case II.—M. A. D. A, Site of rupture.

Case III.—M. G. Site of rupture indicated by an arrow. A, Photomicrograph.

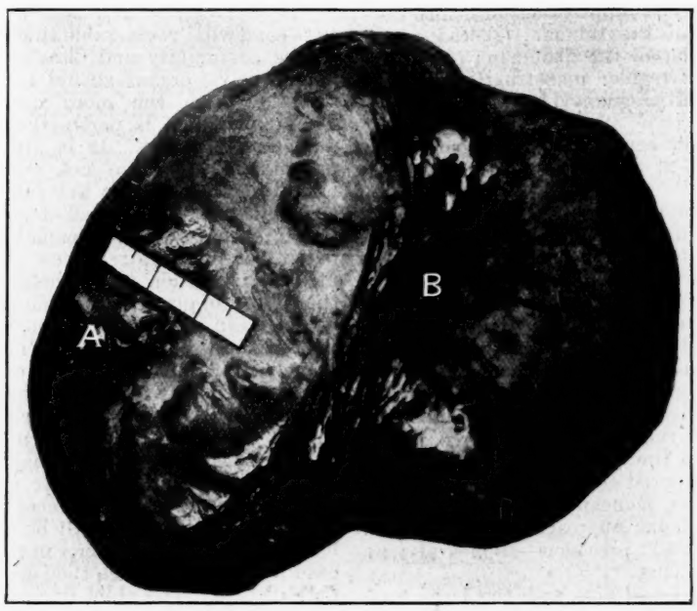
Operation.

On January 27th the abdomen was opened; 17½ pints of free fluid; specific gravity 1006; alkaline; mucin and protein present; probably a mixture of ascitic and ovarian fluids (Dr. T. W. Jones). The pedicle, 3½ in. wide, was laced through and through with No. 0 catgut. There were two localized adhesions to bladder and rectum.

After-History.

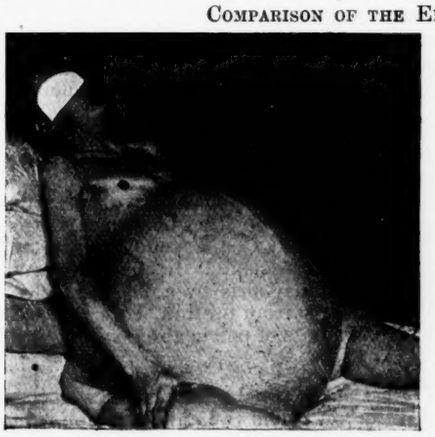
For a few hours she appeared to be dying; pulse 160; later she rallied appreciably, and the next day her condition was hopeful. On the fifth day Dr. McClellan, the house-surgeon, found and afterwards successfully treated a small carbuncle, 1½ by 1½ in., on the back of her neck. The highest temperature was 99.2°, on the fifth day after the ovariotomy, when the carbuncle was found; her pulse at that time remained at 120.

She is now well advanced in convalescence, in spite of a whitlow on the middle finger of her right hand, self infected from contact with the carbuncle.



Case IV.—E. B. A, Site of rupture. B, Omental blood vessels.

COMPARISON OF THE EFFECTS OF SIZE ALONE.



Large growth with adhesions, ovarian cystadenoma with degeneration. Grave emaciation.

Combined pregnancy and cyst-adenoma: large size without evident degeneration. Slight emaciation.

CASE II.—*Ruptured cyst: circular opening ⅜ in. in diameter: cystadenoma of the right ovary, 6 in. by 6 in.*

M. A. D. (sent by Dr. F. J. Knowles, St. Helens), aged 26 six years married; three children, the youngest aged two years.

History.

History of ill health and increase in the size of the abdomen; she did not consult a doctor. During lactation for nine months after the last confinement there was menstrual suppression; menses afterwards regular until four months ago; since then the flow recurred fortnightly with pain. Throughout the whole day preceding her admission, from 9 a.m. onwards, the patient suffered from distressing vomiting, wrongly attributed to poisoning by uncooked plums consumed overnight.

Operation.

She was admitted into the Hospital for Women on August 18th, 1902, with fever, 100° F., pulse 120; irritable bladder and constipation. The abdomen was tightly distended and tender; there was free fluid and a tumour. On August 19th, the day after admission, the abdomen was opened; thick, yellowish, ovarian fluid was present in considerable quantity in the peritoneal cavity. The ovarian tumour was removed; its pedicle was laced with cagut.

After-History.

A nightly rise of temperature of 100.4° F. for the first three days, and afterwards a normal temperature were recorded. The pulse fell from 120 to 80.

CASE III.—*Cystadenoma of right ovary with circular opening of rupture ⅜ in. in diameter: tumour 6 in. by 6 in.*

M. G., a patient of Dr. Hugh T. Shaw, aged 50; single. Before the climacteric, at 44, menstruation had been regular. For two

years she had complained of sickness and weakness. Six months ago her abdomen was swollen. She has lost flesh. Abdominal pain at intervals. The abdomen contained free fluid around an ovarian cystic tumour. The fluid decreased in amount during the few days she was at rest in hospital.

Operation.

On November 14th, 1900, the abdomen was opened, and the thick ovarian intraperitoneal fluid and the ovarian tumour were removed.

Case IV.—*Cyst adenoma, 8 in. by 8 in.; one heavy tumour, tensely cystic along the right and less tensely cystic along the left border.*

E. B., aged 42, twenty-six years married, three children, the youngest 10 years old.

History.

History of abdominal pain for one year; irritable bladder: menses longer in duration and shorter in interval. She had lost flesh. She was a sallow, anaemic woman. There was an adenomatous polyp of the cervix uteri; the ovarian tumour in the abdomen reached 2 in. above the umbilical level.

Operation.

At the operation on February 16th, 1909, the pedicle was ligatured and the whole tumour removed from amidst a pint of free ovarian fluid; the small aperture of recent rupture of the cyst and the dribble of its contents were observable through the large incision before the tumour was handled during the operation. Adhesions supplied by one omental band of blood vessels attached to the tumour some distance from the site of rupture.

A brief analysis of the four cases is suggestive. In non-malignant cyst-adenomata the clinical manifestations are those of—

(*a*) Tumour degeneration: (1) impairment of health disproportionate to the size of the tumour; (2) abdominal pain; (3) variable distension of the abdomen; (4) irritability of the bladder; (5) irregular menstruation subject to the usual modifications of pregnancy, lactation, and the climacteric.

(*b*) Rupture of the cyst, acute pain, recurrent pain, vomiting, the accumulation at a variable rate of free fluid in the abdomen.

The diagnosis of cyst rupture by free intraperitoneal fluid can only be (1) positive, when the partially-filled cyst can be felt or when the previously firm cyst has completely collapsed; (2) presumptive, when the clinical manifestations of degeneration and rupture have been obtained; and (3) occasionally and exceptionally, when the free fluid is small in quantity and the rupture minute, both may escape detection before and during the operation of ovariotomy. The modern preference for removal of the tumour entire, if practicable, accounts for a long incision in Case IV, whereby both the 20 ounces of free intraperitoneal mucoid fluid, and the dribble through the small aperture of rupture were exposed to view.

The teaching of Matthews Duncan—that, although the diagnosis of an ovarian tumour approaches practical certainty, it is not one of scientific precision—applies also to the recognition of complications.

The ovarian tumours of small size and the largest of only moderate size in my series of ruptured cysts had impaired the health of the patients to an extent unusual for the size of each growth. Not one was malignant. The general peritoneum, so far as it was visible, was only changed in one case (I), in which it was injected and thickened, but not shreddy.

The quantity of fluid in Case I may be estimated at 37 gallons, but it is not the fluid alone that exhausts the patient.

Records of tappings, as of other achievements during life, have been preserved in odd places. On the authority of T. Stafford Lee,[4] an old tomb (1728) in Bunhill Fields Cemetery, inscribed with the name of Dame Mary Page, who died at the age of 55: "In 67 months she was tapped 66 times, had taken away 240 gallons of water." Several similar epitaphs have been discovered. A dried ovarian cyst in the museum of the Royal College of Surgeons[5] is catalogued with this history: "Between 1757 and 1783, a patient, aged 27, to begin with, underwent 80 tappings, and lost 6,631 pints of fluid in 26 years."

The mechanical inconvenience caused to a patient by an abdominal tumour may be distressing. A multiple pregnancy or a combined ovarian tumour and advanced pregnancy entail physical inconvenience equal to that of an ovarian tumour of corresponding total size, yet the vital effects on the patient have always been widely different, as illustrated by the photographs.

Degenerative changes in cyst-adenomata are important; they frequently exist without clinical evidence, because the often slowly formed compensatory vascular adhesions they excite check or modify their course. Rupture is rare, and, like the degeneration of which it is the consequence, may occur early with a small growth, as in Case I, where the growth was the size of an orange.

Degeneration, whether the tumour be ruptured or not, varies in its effect on the patient with the degree of vital reaction she possesses, and with the total recumbent rest she takes; it may be revealed by corresponding clinical symptoms showing exacerbations or improvements. These variations are inconsistent with a locally progressive simple tumour, and they have not been shown to have been due to chronic inflammation.

References.

[1] *Trans. Path. Soc. London*, vol. xxxi. [2] *Ovarian and Uterine Tumours*, 1882, p. 168. [3] *Journ. of Obst. and Gynaec. of the British Empire*, February, 1908. [4] From Mr. Bland-Sutton's *Surgical Diseases of the Ovaries and Fallopian Tubes*, 1891, p. 152. [5] Loc. cit., p. 151.

THE INCIDENCE OF GONORRHOEA IN GYNAECOLOGICAL HOSPITAL PRACTICE.*

By FRANCES IVENS, M.B., M.S.Lond.,

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It is somewhat remarkable that a disease so widely spread in the community and disastrous in its effects upon the female pelvic organs should have been treated with less attention than the more rare gynaecological diseases. The explanation is partly the natural avoidance of an unpleasant subject. It is also probable that medical practitioners who are not regularly attending gynaecological departments do not fully realize the prevalence of the disease. Again, dread of publicity and possible litigation prevents frank statements from the doctor to the patient or patient's relatives. It therefore arises that the medical profession as a whole is somewhat indifferent on the subject of gonorrhoea, from ignorance of its prevalence, especially in the chronic forms.

Cases may be regarded as simple leucorrhoea, cystitis, or pelvic inflammation, unless a searching inquiry is made into their etiology. It follows that the lay public is entirely unaware of the lifelong suffering and chronic ill health caused to thousands of women annually by this infection. Otherwise it is inexplicable that while attention is concentrated on the falling birth-rate, no one should have brought forward gonorrhoea as the most frequent cause of sterility. Women are not infrequently blamed as unnatural creatures losing the maternal instinct in the present-day struggle for ease and pleasure when they are the victims of a preventable disease. The chief danger of gonorrhoea lies in its chronicity, as cases are multiplied by those who believe themselves to be cured

Impressed by the relatively large number of cases of gonorrhoea in all stages presenting themselves for treatment in the gynaecological out-patient department of the Liverpool Stanley Hospital, I have kept brief notes for the purpose of getting some approximately accurate figures of the frequency of this disease in women.[1]

It will readily be understood that a seaport, with its mixed nationalities and large proportion of sailors, would be in the unenviable position of being more generally infected than an inland city.

It is from 1,052 consecutive out-patients and 157 in-patients, drawn chiefly from the wives of dock labourers and sailors, that I have made notes on which I venture to base these statements. In many cases I have confirmed the clinical diagnosis by a bacteriological examination of the discharge from urethra, cervix, Bartholini's ducts, or of the contents of pelvic abscesses.

Diagnosis.

Most of the usual points have been considered—namely, a history of pelvic inflammation following the first menstruation after marriage, associated with painful micturition, sterility, and, when there are children, with the presence of ophthalmia neonatorum.

* Read before the Association of Registered Medical Women, March, 1909.

In getting the history, leading questions have not been asked, as it only adds mental misery to her physical sufferings if the suspicions of the patient are aroused as to the cause of the illness. In acute cases the physical signs are usually sufficiently striking, in latent cases there is more difficulty when the organism cannot be found. The presence of bilateral inflammation of Bartholini's ducts, shown sometimes by redness at their orifices, acuminate condylomata on the vulva, a caruncular condition of the urethral mucous membrane, may assist the diagnosis. In some of the more acute cases oedema of the cervical mucous membrane may cause a polypoid appearance at the external os. This may be followed by an erosion of the cervix with a yellowish-green vaginal discharge. The urethral lips may be swollen and oedematous. At the time of the menopause an irritating vaginitis sometimes occurs. When the disease is no longer limited by the internal os, but has spread to endometrium or tubes, a tender enlarged uterus, or an inflammatory mass in the pouch of Douglas, will be noted. The bilateral character of the lesions is not an infallible guide, as I have found the organism in a unilateral pyosalpinx, and a solitary Bartholini abscess.

Obscure cases of cystitis are frequently of gonorrhoeal origin, as the organism readily extends along the urethral mucous membrane to the trigone, and chronic ulceration results. Direct examination of the bladder and urethra by Kelly's cylindrical cystoscope with head lamp or forehead mirror is of the greatest value. In the knee-elbow position the bladder can be inflated with air and readily inspected. If a small-sized instrument is used no anaesthetic is necessary. At the same time, local treatment can be applied to the affected bladder or urethra.

Menstruation is usually increased in frequency and duration when the endometrium is infected. A mucopurulent discharge without menorrhagia is symptomatic of disease of the cervix limited above by the internal os. In quiescent cases menstruation is not infrequently followed by an exacerbation of the discharge, when the gonococcus can be more readily found.

A latent case may become acute after extreme exertion, exposure, during pregnancy, in the puerperium, or from any cause producing pelvic congestion.

Attempts at replacement of fixed retroverted uteri, pessary treatment, or curettage may cause an exacerbation in a latent case.

Incidence.

American and Continental observers have published statistics of the incidence of the disease, varying somewhat widely. Noeggerath,[2] who in 1872 was the first to point out the frequency of gonorrhoea, made some rather sweeping statements, which he modified later. Sänger[3] estimated that 18 per cent. of all gynaecological cases had gonorrhoea. His facts were criticized by Erb,[4] who found 4.5 per cent. of all married women affected among the cases he examined.

Statistics will vary with the class of patient, the character and religion of the population, and the personal factor of the observer. In the results here recorded I have not included doubtful cases.

Among 1,052 consecutive gynaecological out-patients I found 149 cases of gonorrhoea—14 per cent.—an incidence rather lower than that of Sänger. This means that one out of every seven women who come or are sent to the out-patient department has gonorrhoea in an acute or chronic form. Three cases of gonorrhoeal vulvo-vaginitis occurred in children. Nearly all the patients were poor, respectable, married women. Of them, 47 were sterile, 30 per cent., while a considerable number had only one child. I have not been able to ascertain the relative incidence of sterility in the pelvic or uterine cases and of those limited above by the internal os, though it might be of some value to ascertain if the latter condition affects fertility least.

Among 157 in-patients, nearly all operation cases, 39 were gonorrhoeal, or 24 per cent.—1 out of every 4 women admitted. Of these 13 were sterile, 33 per cent. Of these 39 cases, 5 required operation for purulent salpingitis, 2 for pyosalpinx, and 2 for ovarian abscess. In 2 there was a haematoma of the ovary, in 1 haematosalpinx. The latter condition was associated with haematuria and profuse cervical discharge. In 18 there was chronic salpingitis with adhesions from localized pelvic peritonitis. Among them were 3 cases of hydrosalpinx. A large majority required laparotomy, 7 only, chiefly very chronic and long-standing cases of endocervicitis, were treated by curettage and the intrauterine application of pure carbolic acid. Among the total number have been some striking instances of the latent form becoming acute.

One patient after treatment for chronic pelvic inflammation became pregnant. She had a good deal of pain during the pregnancy and in the puerperium an acute exacerbation occurred necessitating later the removal of both tubes and the separation of innumerable adhesions.

A second case illustrates the danger of curettage for sterility. This operation had been performed at another hospital, acute symptoms immediately supervening. The patient declined further operation and was treated by a doctor at home for some months. When she was sent to the Stanley Hospital she had a large ovarian abscess extending nearly to the umbilicus.

A third patient, a widow, gave a history pointing to gonorrhoea fourteen years before. She had a small cyst of Bartholini's duct, and suddenly developed acute purulent salpingitis. It was possible that the organisms had remained quiescent in the duct, but a second infection was also possible.

A fourth case emphasizes the danger of pessary treatment in chronic gonorrhoeal cases. In a young woman attending for pelvic pain it was possible after prolonged douching to replace a somewhat fixed retroverted uterus bimanually and insert a Hodge pessary. A week later she returned with an attack of acute purulent salpingitis necessitating operative treatment.

Curettage occasionally reveals the fact that what one has believed to be a limited endometritis has spread to the tubes.

A patient was curetted for supposed simple endometritis. Under the anaesthetic a questionable thickening of one tube was felt. The next day there was a high temperature with symptoms of pelvic peritonitis, which fortunately rapidly subsided.

Curettage should be limited to cases of endocervicitis, where the infection has not spread beyond the internal os.

The Gonococcus.

The gonococcus, though difficult to cultivate, can be fairly easily recognized in smear preparations from its morphological characters, staining reactions, and tendency to penetrate the protoplasm of the leucocytes. In pus of long standing the gonococci may be absent or scanty, and when found look unstained and degenerate. Secretion from urethra, cervix, or Bartholini's ducts gives the best results. The organism has a tendency to linger in recesses lined by columnar epithelium.

Mortality.

In this series of 37 in-patient and 149 out-patient cases there has been no death.

Prognosis.

Once infected the prognosis as regards cure is uncertain. Even when the disease is confined to the lower zone—that is to say, is limited above by the internal os—it is possible for the organism to lurk in a recess and to cause further trouble. In pelvic cases complete recovery without a mutilating operation is uncommon, even when prolonged rest can be taken. Conservative efforts directed towards preservation of the tubes frequently end in disappointment and a second operation. Still, the occasional success of such efforts is an encouragement to refrain from unnecessarily severe measures. In most cases the patient, if a young woman, prefers to run the risk if the facts are explained to her. Reinfection frequently spoils a successful course of treatment. One patient curetted for long-standing leucorrhoea was quite well for six months. She then returned with an exacerbation apparently due to a reinfection.

In a mild case the prognosis is difficult. The disease may subside to light up again after extra exertion or during menstruation or pregnancy. In many cases the patient becomes the subject of chronic pelvic pain, which takes her from one hospital to another. The physical signs are so slight that she is often regarded as the victim of neurosis, and it is only on opening the abdomen that one finds justification for her complaints. In such cases operative measures are often quite successful, and, freed from the chronic pain, the nervous system may return to a normal condition.

Treatment.

The treatment of these cases has necessarily varied with the character and site of the disease. If acute, rest and

cleanliness have been the first measures adopted. Alkaline sitz-baths have been advised, to relieve the pain and remove the discharge.

In chronic bladder lesions, the local application of silver nitrate solution through a Kelly's speculum, followed by boracic lotion irrigation has given good results.

Caruncular excrescences of inflammatory origin have been snipped off and the bases cauterized, and similar treatment has been applied to acuminate condylomata.

Cases of acute salpingitis have been kept in bed until the temperature fell, on milk diet, saline aperients, having turpentine stupes applied for the severe abdominal pain. If pus was suspected, the abdomen was opened. In all but one case, at least one ovary has been left.

This patient, a young woman, came up a few months later looking very miserable. She said she had no pain, but felt wretched, was irritable, had pains in her head, and was getting thin. She improved on tonics to a certain extent. The operation had been for a pyosalpinx which had undergone torsion with resulting haematosalpinx. The other tube was diseased, and so intimately associated with the ovary that removal was necessary. The uterus was left.

It has been occasionally possible to excise the inflamed corpus luteum containing sero-purulent material by a wedge-shaped incision, leaving healthy ovarian tissue, and such cases have done well.

Expectant treatment has been adopted when the acute attack passed off rapidly, and the physical signs were slight. Unfortunately cases of complete recovery have been few, a relapse often driving the patient back into hospital. After a sharp attack, when the patient has to return to hard household labour, such as washing, it has proved more satisfactory to open the abdomen, and then to treat them as conservatively as possible.

In two of the 39 cases the uterus was removed with the tubes.

In one case an ovarian abscess communicated by a small fistulous opening with the rectum, and was secondarily affected by *B. coli communis*. All the pelvic organs were matted together by adhesions of some eighteen months' standing, and the uterus was removed for vaginal drainage. It was easier to remove than to leave it.

In a somewhat similar case of large ovarian abscess the wall had become adherent to the bladder, into which it was on the point of discharging. With some difficulty on account of the infiltration at the base of the bladder the uterus was removed with the tubes and right ovary, no rupture of the abscess taking place. As there was danger of leakage from the bladder, the pelvis was drained with iodoform gauze carried through into the vagina. The uterus was large, and its lining resembled the wall of an abscess cavity.

In both these cases the pouch of Douglas was opened up posteriorly to avoid leaving an undrained cul-de-sac. The after-result in these cases was better than in those in which the uterus was left, where leucorrhoea often persists.

Drainage has not been adopted in gonorrhoeal cases, unless there has been some complication, and only in one instance through the abdominal wall, where there was suspicion of injury to a ureter in a myxoedematous patient, whose condition did not warrant prolonging the operation. Drainage has proved to be entirely unnecessary, and, after mopping out the pelvis with warm saline solution on gauze sponges, the abdomen has been closed.

One case subsequently developed a small pelvic abscess, necessitating drainage, following the removal of a thickened tube and ovarian haematoma.

She was a very anaemic and debilitated woman. The abscess was so small that it could not be localized from below, and was reached through an incision above Poupart, through which adhesions were separated. Two fingers in the vagina were of assistance in locating the pus, the quantity of which did not exceed a teaspoonful.

In all cases the abdominal wall was sewn up in three layers, with fine catgut for the peritoneum, and buried continuous silkworm gut for the sheath of the rectus. No hernia has at present been reported, though belts were not advised, and the patients got up about the tenth day, leaving on the twelfth, unless there was some contra-indication. No suppuration in the abdominal wound occurred in any of these cases, except in that of the pelvic abscess, where the silkworm gut was removed at the second operation. It would appear that a high opsonic index has been reached, and that the tissues are highly resistant to microbial infection.

It is too soon to give complete after-histories. At present a considerable number have reported themselves as quite well. In three or four some chronic pain remains, and these are unfortunately those in whom adhesions were separated, leaving what were to all appearances healthy tubes. Leucorrhoea has persisted in some instances where the uterus was left.

Prophylaxis.

My object in bringing forward these facts is to renew interest in a disease extremely widespread, and the cause of endless suffering to many ignorant and innocent women, and in the hope that practical prophylactic measures will be suggested.

I would suggest that, with the co-operation of the medical profession as a whole, further investigations be undertaken to ascertain the extent of this disease, and some attempts made to lessen the incidence.

I do not venture to indicate how to deal with the sensitive social conscience of the present day, but it is obvious that ignorance constitutes a grave danger to the community.

Loyalty to the patient herself must be the first consideration, and the risks employers and others are running secondary. Apart from education, the only solution of the problem is notification, as has been suggested for ophthalmia neonatorum, so that early and complete treatment could be adopted and if necessary enforced. To this method, unfortunately, there are many grave objections.

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CAESAREAN HYSTERECTOMY IN PREGNANCY COMPLICATED BY MYOMA UTERI.

By JOHN BENJAMIN HELLIER, M.D.,

PROFESSOR OF OBSTETRICS IN THE UNIVERSITY OF LEEDS AND OBSTETRIC PHYSICIAN TO THE LEEDS GENERAL INFIRMARY.

A good deal has been written lately on the treatment of myomata in pregnancy. My experience in Leeds confirms the view that operative interference is very rarely called for to secure delivery. The myoma very rarely obstructs the birth. When, however, the parturient canal is seriously obstructed, operation is necessary to save the child and to obviate risks to the mother. When anatomical relations permit, myomectomy is the operation to be preferred, but in most cases that require operation hysterectomy is best.

CASE I.

Mrs. A. B., wife of a medical man, was brought to me by her husband in July, 1908, on account of myomatous growths in the pregnant uterus. She was 35, and had been married six years without becoming pregnant; she had enjoyed good health on the whole, and, though liable to dysmenorrhoea, had never suffered from menstrual excess. She had not suspected that anything was wrong with the uterus until a few weeks pregnant. Menstruation ceased in April, 1908, and labour was due about January 22nd, 1909. The usual symptoms of pregnancy were present when I saw her, but the uterus reached two-thirds the distance between pubes and navel in the third month, and there was a hard myoma on the right of the fundus. On vaginal examination, another could be palpated occupying the posterior and left wall of the cervix and projecting in the direction of the broad ligament. It was clearly recognized that this might prove an obstacle to normal delivery, but it was decided to let the case go to term if possible. The husband was very anxious that the child should be saved and that delivery should take place *per vias naturales* if possible, and that later the myoma should be operated upon, for he was contemplating removal to a foreign station, and very much dreaded the possible recurrence of the conditions now present at a time and place where skilled assistance might not be available. I willingly agreed to do my best to carry out his wishes, but stipulated that if at term the parturient canal were found to be seriously obstructed I should be at liberty to perform Caesarean section and deal with the myomata at the time as might seem best. What one would most anxiously avoid would be to allow labour to progress to the second stage and then to be compelled to destroy the child, or to risk damage to the myoma and uterus, or else to have to perform Caesarean section on a patient advanced in labour after fruitless efforts at vaginal delivery. This discretion was freely given by those concerned.

In the following month the uterus increased rather quickly in size, and there were at least two attacks of severe pain, with symptoms of obstruction of the bowels; fortunately these yielded to simple treatment. During the autumn there was a good deal of pain in the left leg, and vomiting was troublesome.

In spite of our fears to the contrary, she went to term, and when she came into a nursing home on January 20th I was delighted to find her in very fair condition and free from serious symptoms. There could, however, be no doubt as to treatment, for the head was mobile above the pelvis, and could not be made to enter it, while a large, solid tumour occupied the pelvis and could not be pushed up. The liquor amnii began to be discharged on January 21st.

Operation.

The operation was performed on January 22nd. Mr. Hann administered chloroform, and Mr. L. R. Braithwaite assisted me. Through a median abdominal incision I drew the uterus forwards and removed the child by an incision in the fundus. On drawing up the uterus I was glad to find that below the myoma in the cervix there was space for a satisfactory supravaginal amputation. The right ovary was not removed. I tied the vessels with catgut, drew the edges of the stump lightly together with a few catgut sutures, and sutured the peritoneum over it in the usual way. No drainage was necessary. The abdomen was then closed as usual.

This operation, which has superseded the old Porro, is to any one accustomed to hysterectomy a quick and easy one, for the size of the abdominal incision and the laxity of the tissues make it very easy to see and deal with all the parts concerned. The child was a very well developed male weighing 8 lb., and having a chest girth of 18 in. Except for a little temporary difficulty on the second day with intestinal distension, which yielded to treatment, the mother made an uncomplicated recovery. She had an abundant supply of milk, and suckled the child entirely from the fourth day onwards; the wound healed without suppuration, and the husband was able to take her home at the end of two weeks. She has progressed well since, and the child has gained on an average about ½ lb. a week.

The specimen removed was shown at the Leeds and West Riding Medico-Chirurgical Society on May 7th; it measures after retraction and hardening 8½ in. by 7 in. It shows three myomatous nodules in the corpus uteri, and one as large as a fetal head in the cervix. It does not project into the cervical canal, and could not have been removed by the vagina before delivery. A portion projected downwards towards the sciatic notch, and probably pressed on the nerves.

CASE II.

This bore a close resemblance to Case I. A woman, aged 31, married three years, primigravida, was brought to me, when three months pregnant, by Mr. H. J. Roper of Leeds, in July, 1908. She was a spare but not unhealthy woman, and had suffered from no serious degree of menstrual excess. The myomata had not been discovered before pregnancy. The uterus reached nearly to the navel, and at least three distinct and rather mobile myomata could be felt through the abdominal wall.

Per vaginam several nodules could be felt in the lower uterine segment, threatening obstruction in labour, although not so great as in the last case. The usual signs of pregnancy were present. Labour was due about January 18th, but she did not go quite to term, but came into the nursing home on January 6th with the liquor amnii discharging.

Operation.

The operation was performed on January 7th, its details being almost exactly the same as in the previous instance—supravaginal amputation, right ovary not removed, retro-peritoneal treatment of stump, no drainage, no difficulties. The child weighed 5¾ lb.; female. The mother was not able to suckle through failure of secretion. The wound healed without suppuration, and the recovery was uncomplicated.

The uterus removed shows an extraordinary number of interstitial, subserous, and submucous nodules; there must be about twenty in all, larger or smaller. One of the submucous nodules was almost detached in the uterine cavity. There was no appearance of degeneration in the myomata.

I may refer, in closing, to a case on which I operated several years ago, where a myoma complicated a four months' pregnancy and was causing pressure symptoms. It was felt in the pouch of Douglas, and was supposed to spring from the cervix and lower part of the uterus. It turned out to be a myoma springing from the fundus of a retroflexed pregnant uterus, and could be drawn out of the pelvis on abdominal section. The uterus is now in our museum, and the case illustrates a difficulty in diagnosis which is worth noting.

The safety of modern Caesarean section, whether conservative or mutilative, is so well established as to need little emphasizing, but I think that there are many women with a sufficient degree of pelvic contraction to lead to loss of child after child who might well be encouraged to undergo delivery by abdominal section for the sake of having a living child.

UNDER the will of the late Miss Ann Hill of Peterborough, who died on March 20th, the Hunstanton Convalescent Home and Peterborough Infirmary each receive a sum of £2,000. They are also entitled to share in the residuary estate, and from this source will probably each receive some £700 or £800 in addition.

A SUCCESSFUL CASE OF HYSTERECTOMY FOR PUERPERAL INFECTION.

BY A. KNYVETT GORDON, M.B.CANTAB.,
MEDICAL SUPERINTENDENT OF MONSALL HOSPITAL, MANCHESTER.

IN my own experience it is very rarely indeed that the question of performing hysterectomy for puerperal septic disease presents itself. In a series of 250 cases of the more severe type of puerperal fever, I have only attempted the operation once with a good prospect of success in the following case, though I have removed the uterus unsuccessfully in 5 other cases (twice by the vagina and three times abdominally) as a last resort and at the urgent solicitation of the relatives or of the medical attendant. As a rule, the patient is either in a condition of general septicaemia with streptococci in the circulating blood when she arrives at the isolation hospital, or if the lesion is well localized, reacts to vigorous disinfection of the uterus.

F. G., aged 23, a previously healthy primipara, was delivered at full term of a normal child on August 21st, 1908. A midwife only was in attendance, who is stated to have made vaginal examinations very frequently until the birth of the child, the labour lasting thirty hours. Half an hour after delivery, the placenta having partially come away, there was severe *post-partum* haemorrhage, and a medical man was summoned, who found it necessary to introduce his hand into the uterus in order to detach the remains of the placenta. He did not wear gloves, and was unable, owing to the absence of any facilities, to disinfect his hands, or even wash them, satisfactorily. Half an hour later, as the bleeding recurred, he repeated the manœuvre, and then gave an intrauterine douche.

Sixteen hours later the temperature rose and the patient had a rigor. She became rapidly worse, and ultimately—seventy-two hours after delivery—was notified as a case of puerperal sepsis and removed to Monsall Hospital.

Condition on Admission.

Her state was very grave. The pulse rate was 144 and the temperature 103°. The extremities were cold, and there was intense anaemia with much prostration. The abdomen was uniformly distended but there were no signs of general peritonitis; the fundus uteri could be felt externally 1 in. above the umbilicus. On further examination the vagina was found to be sloughing, with large necrotic masses on each labium and on the posterior wall. The cervix was split bilaterally, and the posterior lip was covered with greyish membranous exudate. The os was widely dilated, and fetid pus was flowing freely from the interior of the uterus, the cavity of which measured no less than 10 in. in length. The uterine wall was everywhere softened, and it would have been possible to push the finger through its substance without difficulty. At the fundus were several partially loose masses of placental tissue.

The advisability of removing the uterus forthwith was considered, but as the patient was worn out from want of sleep and in a very dirty condition from the absence of proper attention, and as it also appeared desirable to investigate the bacteriology of the blood before operating, I decided to temporize. Accordingly, under the analgesia afforded by a dose of alcohol followed by morphine subcutaneously, I scraped the interior of the uterus thoroughly with a large sharp curette, and swabbed the resulting raw surface with pure izal solution, packing the cavity subsequently with gauze soaked in a 1 in 100 solution of the same preparation. Three pints of saline solution were then given subcutaneously.

Operation.

On the morning of the next day the patient had rallied somewhat, but the pulse-rate had not diminished, and the temperature remained at 103°. Two rigors had occurred. The cultures taken from the blood showed no growth (and remained sterile subsequently), while those from the interior of the uterus showed *B. coli* and *B. proteus* in large numbers. I came to the conclusion that there was no general bacillary infection, and that it would probably not be possible adequately to disinfect the uterus by further local palliative treatment, so I opened the abdomen and amputated the uterus at the level of the internal os, leaving both ovaries, and covering the stump with peritoneum in the usual manner. A rubber tube was placed in the remains of the cervix, and the peritoneal cavity closed without drainage. After the effects of the ether had passed off the patient was propped up in the sitting position, and three pints of saline solution given subcutaneously.

After-History.

For the next ten days the temperature remained at about 101° until the discharge of pus from the cervix and sloughing vagina had ceased, but her progress after the operation was otherwise very favourable. She left the hospital sixty days after the operation with a firmly healed abdominal wound, and free from vaginal discharge. A month later I saw her again, and found the vaginal vault firmly healed. She had resumed her work as a tailoress, and had menstruated since her discharge.

I have only to add that the reason why I did not remove the cervix as well as the body of the uterus was because the patient's condition rendered it desirable that the operation should not be prolonged. In this case it had lasted for twenty minutes, and it then seemed that the further ten minutes or so which would be required to remove the cervix might turn the scale against the patient. On theoretical grounds, however, I should prefer the total operation in a similar case.

"CLEAN MIDWIFERY" IN GENERAL PRACTICE.

BY ARTHUR H. GREGSON, M.B., CH.B.,
BLACKBURN.

FOR five years no doubt had ever entered my mind as to the efficacy of mercury perchloride as a hand and labial disinfectant and a sure preventive of puerperal fever; but in December, 1905, a midwife sent for me to attend one of her septic cases, which proved fatal within a week; and after that, though none were fatal, several of my own had unpleasant rises of temperature; it seemed as though the infection would not be got rid of, so I determined to use rubber gloves.

At first they were carried in a glass bottle containing glyc. ac. carbolic. diluted ten times at one end of my bag; a yard of cotton-wool was also put in, and the midwifery forceps transferred to a sterilizer made by a local tinsmith for 7s. 6d. The nurse was required to find an enamel pan and some soda to boil the gloves, a bowl for lysol to transfer them to, another for perchloride to wash the labia with, as the lysol is too irritant, besides the usual washhand basin, the whole making a somewhat formidable array.

Before long, however, a case occurred in which elaborate preparations were out of the question; even a pint basin for the perchloride had to be borrowed—just such a case where perfectly clean midwifery would be held an impossibility. In these poor houses the gloves are put into the kettle and transferred to the mercury solution instead of to lysol, and this is found to do quite well. Of course the soda is omitted, and then the gloves must be boiled in it at home to remove any trace of blood or fat before being used again; whereas this is usually done at the patient's house, the pan being kept at one side throughout the case and used repeatedly.

The gloves having been boiled, one's own hands are washed with soap and water, all the folds of the patient's genitals and adjacent parts cleansed with perchloride and the vagina swabbed as thoroughly as possible with cotton-wool wet with the same solution and never dipped into it a second time; then one's hands are sterilized in the ordinary way and the gloves put on without filling with water, a pad of cotton being used to work them on, and the examination made without any lubricant except the 1 per cent. lysol when convenient, contamination from the anus being prevented by keeping a pad of dry wool over it. The patient is always instructed to have an enema before she sends for me, but too often she omits it. If during the vaginal examination the rectum is found overloaded and the os not fully dilated, an enema is given.

If instruments are found to be required, boiling water is poured into the tin, the gloves put in, and 2 per cent. lysol added. The whole are then boiled for five minutes with the spirit lamp, half the solution poured into a jug as a reserve, and cold added to the tin.

Such a change in routine had its disadvantages. Tactile sensation required re-educating, but half a dozen cases were sufficient to complete this. The waste of time was at first about an hour, but now it is only fifteen minutes, and is fully compensated for by not having to give intra-uterine douches later. If any rotating or turning is required, lysol makes the gloves too slippery, and perchloride must be used instead.

The greater peace of mind is worth much, although two or three cases of puerperal fever have occurred in my own practice since.

The first was one in which the patient had taken plenty of castor oil, and refused to have an enema, with the result that faeces contaminated my glove during the rotation of an occipito-posterior into an occipito-anterior presentation, and taught me to leave the pad at the anus.

The second might easily have been a mystery, but that on my arrival a neighbour said, "She won't be long now, doctor." "You have examined her?" I asked. "Yes, but my hands are clean; I am washing," she answered. A washerwoman making a vaginal examination! In this case the mother-in-law remarked, "There should be no blood poisoning here," when she saw my preparations to prevent it.

The third was an occipito-posterior presentation delivered by rotation and instruments; the perineum was torn. There was swelling of the abdomen six hours later, which disappeared after defaecation next day. The temperature never rose above 99.6°, and became normal after removing a painful suture on the fourth day; the pulse fell from 108 immediately after delivery to 80 during the same time. Satisfactory progress reported on the seventeenth day. At noon on the eighteenth day I was called in again. She had vomited; was suffering from pain in the right iliac region; the temperature was 102°, and the abdomen again swollen. On vaginal examination there was tenderness limited to the right fornix; an intrauterine douche brought away nothing and caused no improvement. Involuntary defaecation commenced soon after, and a rigor occurred on the twentieth day. A consultation was held on the twenty-first day; the uterus was normal for the time, and the perineum healed, but the abdomen was more distended. Septic peritonitis was diagnosed, and the appendix mentioned as a possible source; but, owing to the circumstances, it was decided to regard the genital canal as the route of infection. She had always been much troubled with wind—a complaint which I remembered (when too late) that two of my male patients have recently been completely cured of by removal of the appendix.

Patients themselves like the gloves, because they slip in more readily than the bare fingers, and one commented that I had not scratched her.

The greatest enemies were the neighbours, who declared unanimously against the innovation, one admitting that she had not sent for me "because Dr. Gregson is so faddy"; another asking if I was afraid of blood; but the most annoying incident was the setting out of the report that a certain patient must have had syphilis, or gloves would not have been used, after which I put up a notice that an extra charge of 2s. 6d. would be made for rubber gloves.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PRIMARY EPIDIDYMITIS IN MUMPS.

ON the evening of April 16th, 1909, I saw a youth, aged 18 years, lying in bed and complaining of a pain in the right testicle. This on examination proved to be due to epididymitis, the body of the testicle being quite sound. The temperature was 99.4°, and the history of the onset quite sudden and non-traumatic.

There was no urethral discharge or scalding, nor had there been any; the boy (a country lad) denied any sexual history, nor was there anything about the meatus urinarius to cause me to doubt the truth of his statement. I recommended supporting the testicle on a pillow covered with mackintosh, and hot fomentations, giving at the same time a saline purge. The next day the true nature of the case revealed itself. The left parotid swelled out in the typical way, and also the right submaxillary gland. The temperature rose to 103° and a little over. The body of the testicle began to swell the following day. In about ten days the fever and swelling subsided, and salivary glands and testicle resumed their normal appearance.

The unusual feature of the case is the primary manifestation in the epididymis. The so-called metastatic orchitis frequently precedes mumps, but in no case can I find a record of the epididymis taking the lead. The testicular manifestations are almost invariably unilateral and are frequently followed by atrophy of the gland, which fortunately did not occur in this case.

Whittlesey. J. J. WADDELOW, F.R.C.S.Eng.

THE TREATMENT OF BOILS AND CARBUNCLES.

No boil or carbuncle need be painful, nor should the treatment cause pain. I recently gave gas for a friend who opened and scraped a very painful boil on a man's arm. The treatment was drastic, it may have been efficacious, I do not know, but it certainly was painful. Not long previously I had treated a glycosuric man for one of a series of large boils on his neck. The previous boils had been cut or scraped *secundum artem*, and had caused great pain.

The treatment which I employ is simple. A pledget of cotton soaked in carbolic glycerine is applied to the boil and covered with gutta-percha tissue and a bandage. As soon as pus shows, the epithelium is gently turned back and the glycerine reapplied. As soon as a slight cavity appears some of the glycerine is gently inserted by means of a simple glass syringe, and again the poultice of glycerine is applied. In two or three days the slough separates, and after one final poultice of glycerine the cavity speedily closes, with the minimum of scar, under any simple dressing. The hygroscopic action of the glycerine relieves the tension—the cause of the pain—very speedily, and it need never recur.

I have never had occasion to use any other treatment. I have never seen a carbuncle spread when once this treatment was begun, still less have I seen any danger to life in my own cases.

One very serious case I saw recently in consultation—that of a butcher with a carbuncle 6 in. by 4 in. between the shoulders. The treatment described above was adopted, the spread of the carbuncle was promptly arrested, and a quick recovery ensued.

My glycosuric patient tells me he has had more than one boil since, but has not needed my help as he independently treated himself in the same way.

This method is not original. I owe it to my old teacher, the late Dr. John Duncan of Edinburgh. It may be that glycerine alone would suffice, but I have no fear of the carbolic acid, as the glycerine dehydrates the tissues and so probably prevents absorption.

London, E.C. A. OGIER WARD, M.D.

TETANUS FOLLOWING SURGICAL OPERATIONS.

I HAVE been deeply interested in the excellent paper by Mr. W. J. Richardson on the subject of tetanus occurring after surgical operations, and in the subsequent contributions by other writers on the same subject. I have personal experience of one case that occurred at the Ingham Infirmary, South Shields, in March, 1907, where I was at the time senior house surgeon. At the request of the surgeon who operated, I sent complete notes of the case very soon after it occurred to the *Northumberland Medical Journal*. It also formed the subject of a very prolonged and very interesting discussion by the Newcastle-on-Tyne Medical Society. I have unfortunately mislaid the notes of the case and the journal in which it was published; but I have been favoured by the Secretary of the Clinical Research Association with an exact copy of the report on the examinations made for me, and I believe I can give the other details fairly well from memory.

The patient was a woman, about 31 years of age, and the operation was ovariotomy. Everything went well from the time of the operation, the wound healed by first intention, and the patient was making an excellent recovery. About the seventh or eighth day after the operation she began to complain of pain and stiffness in the back of the neck, a little later this was followed by stiffness in the jaws and difficulty in opening the mouth. This condition advanced very rapidly, and within a few hours from the onset of the first symptom I came to the conclusion that she was undoubtedly suffering from tetanus. I started antitoxin treatment immediately, but in less than thirty hours from the commencement of the trouble she was dead.

I at once drew off some of the cerebro-spinal fluid and sent it to the Clinical Research Association of London for examination, but nothing specific was found. The catgut was suspected. We had at the time four varieties of catgut at the hospital from four different firms. The catgut used in that particular operation came from a stock we had just got in and which we had only then used for the first time. I may also say that to the best of my recollection it came from a firm—I remember the name of the firm—that supplied us then for the first time. The method of sterilizing in that particular case was the same as had been in practice at the hospital for a considerable number of years. I took samples of the four varieties of catgut, marked them A, B, C and D, and sent them to the Clinical Research Association for examination, which was carried out with great precaution and every possible attention to detail. I quote here from their report.

"Several varieties of sporing bacilli, including aërobic as well as anaërobic organisms, were obtained from the various samples, but it was only in 'D' that an organism having the characters of the *Bacillus tetani* was found. . . . From the cultures of this sample 'D' of catgut we have isolated a large anaërobic bacillus, of which certain of the individuals show large terminal spores, giving to the rod the drumstick appearence characteristic of the *Bacillus tetani*."

A note was added to the report to the effect that it would not be possible to find proof of the specific nature of the bacillus without animal inoculation, and "that they were not authorized to have an animal experiment made"—this a triumph for antivivisectionists!

It only remains for me to add that sample "D" of the catgut came from the stock we had used in the operation here described, and I regret very much that the investigation was not carried further, and an animal experiment made.

London, N. J. I. JAFFÉ, M.R.C.S., L.R.C.P.

POISONING BY BISMUTH SUBNITRATE INJECTED INTO A KNEE-JOINT.

IN view of the frequency of bismuth injections into cavities for diagnostic purposes by radiography, the following note may interest surgical readers:

P. E., aged 37, with a history of venereal trouble and joint affections but no injury, came under my care on March 8th. His right knee was swollen, and had been getting sorer and larger for two months. Several examinations of the fluid, which was at first grumous and later serous with some stringy fibrous clots, revealed no organism, either by culture or microscope. Calmette's test gave a slight positive reaction. As the serous discharge was rather profuse, I injected over 2 oz. of a 1 in 3 suspension of bismuth subnitrate in vaseline on April 12th. A rather tight bandage was applied, and in thirty-six hours a characteristic bismuth stomatitis with ulceration developed. There were no digestive symptoms except anorexia. The joint was evacuated, and the ulcers in the mouth healed up in a week, with the help of a feeble acid mouth wash and free use of swabbing with a solution of potassium chlorate. There was no looseness of the teeth. The joint also rapidly improved, and the knee was quite well to appearance and painless three weeks later. There was still some coloration round the teeth and gums when he left hospital.

Dundee. ALEXANDER DON, C.M., F.R.C.S.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

DEVON COUNTY ASYLUM.

A CASE OF SUDDEN DEATH FROM PANCREATIC HAEMORRHAGE.

(Reported by SIDNEY J. STEWARD, M.B., B.C.Cantab., Assistant Medical Officer.)

THE patient in the following case, a man aged 65, had been in this asylum for seven years, suffering from depression with intermittent insomnia.

History.

During the last two years he became partially demented and had a delusion that something was wrong with his testicles, which he wished to have cut away. There was never any indication of organic physical disease, but he was always rather thin and sallow, with flabby muscles and a small, soft pulse. Being suicidal he was under constant observation, and his bowels and bladder were seen to act regularly; he ate well, did not vomit, and seemed in his usual state of health up to the time of his death.

He got up at 6 30 a.m. and dressed and washed himself, and at 7.30 a.m. he was seated in a chair, being tidied, when he suddenly fainted in the attendant's arms; he became pallid, cold, and pulseless, and died in two or three minutes, with no other symptoms than those of syncope.

Necropsy.

At the necropsy the pancreas was found to be totally disorganized by recent blood clot, which involved the surrounding tissues and the suprarenal capsules. Under the microscope these glands showed recent infiltration with blood, but there was no evidence of inflammatory change, fat necrosis, or new growth. The only other pathological conditions found were marked congestion of the lungs, liver, and spleen; a few minute cortical cysts in the left kidney, and one as large as a hen's egg in the right; a patch of old pleurisy on the right side; some thickening of the parieto-frontal pia arachnoid; slight degeneration of the cardiac muscle, the valves being competent. There was no pigmentation of the skin, no oedema, and no sign of trauma, and the urine drawn from the bladder *post mortem* did not reduce Fehling's solution.

Remarks.—Death was apparently due to a haemorrhage into the pancreas, which involved the suprarenal capsules and the surrounding areolar tissue, and seems to have occurred spontaneously, as there was no evidence of any inflammatory change, new growth, or traumatism.

Reports of Societies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, June 10th, 1909.

Mr. W. H. H. Jessop in the Chair.

Congenitally Defective Lenses.

Mr. P. H. Adams described a series of cases of congenital displacement of the lens. The patients were a mother and seven out of her nine children. No other instance could be found in the family. In three cases the lens was displaced downwards, instead of the more usual displacement upwards, while in the eldest boy the dislocation was complete, thus leaving the pupil clear of the lens. The two members of the family who were unaffected had perfectly normal eyes. He also dealt with a family with congenital opacities in the lens. The great-grandfathers, grandmother, father, and four of his children (out of five), as well as the father's sister, showed the peculiar opacities of the lens known as stellar cataract. Posteriorly there were from three to six primary rays, and numerous secondary ones, while some of them showed Y-shaped markings on the anterior surface as well. The opacities slowly increased throughout life, especially in the front of the lens, while the posterior markings were broader and less defined.

Retinal Disease.

Messrs. A. Hill Griffith and A. W. Ormond read a paper entitled, A Case of Retinal Disease, with Massive Exudation and Arterio-venous Communication, the patient being a woman aged 31. The left eye had been removed for secondary glaucoma by Dr. Hill Griffith ten years ago. The fundus of the remaining eye showed very tortuous and distended retinal vessels, with varicosity of several of them, and a red blurred optic disc. In the extreme periphery of the fundus, deep to the retinal vessels, was a whitish mass, the limits of which could not be seen. The changes in the fundus were probably all due to vascular disease. The interest in the case was furthered by the fact that the other eye of the patient was removed for secondary glaucoma simulating an intraocular growth, and on examination it proved to be a case of extensive subretinal exudation, with retinal detachment and an old organizing haemorrhage, but no growth. The patient's sister also lost an eye from a similar cause, and the same condition was found on pathological examination.

A Filament in the Anterior Chamber.

Dr. George Mackay reported a case in which an epithelial filament resembling a threadworm was observed in the anterior chamber of the eye of a girl aged 7. The child had always enjoyed good health, had no special illness, had never suffered from worms, and had not complained much about the eye. The filament had been first noticed when she was 8 months old. No independent movement had ever been detected in it, but the parents were under the impression that it was slowly increasing in size. The eye was occasionally a little irritable, with a tendency to lacrymation, and a trace of ciliary injection. The tension was normal, the media otherwise transparent, and the fundus healthy. The pupil responded to light, although it was less mobile below than above. At the periphery of the iris, close to the anterior chamber angle, between the 5 and 6 o'clock meridians, a buffy-grey filament about a millimetre in diameter emerged between the fibres of the iris, and lay in close relation to the posterior aspect of the cornea, and appeared to rest lightly in contact with the sphincter surface of the iris. The structure terminated in a slightly bulbous free extremity, which did not re-enter the iris, nor extend to the angle of the anterior chamber. The arched filament had thus a slight spiral twist from before backwards. The vision of the right eye was approximately $\frac{6}{12}$; the left, $\frac{6}{6}$. The child was put under chloroform, and through an incision made at the corneo-scleral junction a little to the nasal side of the filament the foreign body was successfully removed, though breaking into two pieces, on account of its brittle structure. From the pathological examination made by Dr. Shennan of Edinburgh and Mr. A. E. Shipley of Cambridge no confirmation was obtained of the presence of a parasite. Microscopic sections showed that the filament was mainly composed of stratified epithelium, with a little loose connective tissue and some melanine pigment.

International Notation.

Mr. W. H. H. Jessop presented the report of the International Committee on the Unification of the Notation of Visual Acuity and of the Meridians of Astigmatism. The following were the conclusions: (1) The meridians of astigmatism should be measured and represented as the observer looked at the patient; (2) the axes should be measured and represented in the lower semicircle of the trial frame. The numbering of the axes should start from the middle line of the face in each eye, and proceed downwards and temporalwards. The zero would therefore lie at the nasal end of the semicircle, and 180° at the temporal end; 90° would be below and midway between these points. The committee also agreed that for international test type numbers should be used. Landolt's ring was also thought to be a suitable object. The unit of measure was an angle of 1 minute, and the figures were to be constructed on this unit. The types were to be constructed as regards size on arithmetical progression, and the standard distance at which they were to be seen should be 5 metres. The source of light was to be diffuse daylight, if possible, opposite the types, and not laterally.

ROYAL SOCIETY OF MEDICINE.

Surgical Section.

Tuesday, June 8th, 1909.

Mr. Warrington Haward, President, in the Chair.

Benign Tumours in the Wall of the Stomach.

Mr. Walter G. Spencer, in a paper on benign tumours of the stomach wall, related the case of a woman, aged 46, first seen by Mr. Barling. She then had three tumours in the abdomen, all freely movable. Two of them were mobile in the horizontal plane only, and these were taken to be the kidneys. Not until the operation was it ascertained that the third reniform tumour was really a submucous fibroma of the stomach. The tumour was shelled out and the patient did very well, resuming her occupation in three or four months. Two other cases of similar tumours from the Westminster Hospital Museum were exhibited, and reference was made to a number of reported cases. In the museum of the Royal College of Surgeons there were specimens of such growths from the horse and codfish. Diagnosis, except at the time of operation, was impossible, but it was important to remember that these neoplasms could easily be enucleated, and that it was unnecessary to excise any part of the gastric wall. Mr. Bidwell drew attention to the fact that stomach tumours might be mistaken for mobile kidneys, and asked if the view that these innocent growths might "become malignant," suggested by the author, was generally accepted. Dr. Macnaughton Jones said that myofibromata of the uterus certainly underwent malignant degenera-

tion. Mr. HAWARD spoke of the invasion of benign tumours by malignant growth. Mr. SPENCER, in reply, differentiated between surgical and histological malignancy, and spoke of the existence in the sections of his specimen of cells open to suspicion of malignancy, although the gross tumour was encapsuled and benign.

Gastric Surgery.

Mr. STANMORE BISHOP read a paper on some fifty cases of gastric operations, chiefly gastro-enterostomies, giving details of a number of representative examples. He laid stress on the value of *x* rays of the bismuthized stomach and intestines, both in diagnosis and in the study of the mechanical conditions existing after anastomosis. He also showed a series of clamps, some of which were of his own design, and intended to facilitate partial or complete gastrectomy. Mr. BIDWELL said that he never used clamps for his gastric operations, and pointed out the advantage of performing the anastomosis first, in the course of a partial gastrectomy. He had had experience of double gastro-enterostomy for hour-glass stomach, a procedure of which Mr. Bishop did not approve, and thought it could be performed with safety. In duodenal ulcer it was important to occlude the pylorus as well as to short-circuit the stomach. Mr. CHILDE mentioned a successful case of double gastro-enterostomy for hour-glass stomach. He advocated the performance of an anastomosis at the time of operation for perforation of a gastric ulcer, and illustrated the importance of early operation in these cases by instances from his practice. Mr. SPENCER spoke of the desirability of having more than one type of clamp, a powerful one to crush the tissues and a thin-bladed pair for use subsequently, when applying sutures. Mr. BISHOP, in his reply, objected to the attempt to occlude the pylorus, believing that it was impossible to secure permanent closure unless pylorectomy was performed.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a meeting on June 4th Mr. CANNY RYALL, in opening a discussion on *Spinal analgesia*, stated that he now used it for operations on all parts, his list including craniectomies, excision of the sympathetic, extirpation of the larynx, and excision of one-half of the tongue, together with removal of the glands from both sides of the neck. One of his patients was a little girl 2½ years of age, who was submitted to an operation on the head without the slightest alteration in her general condition. He introduced the method of making high injections in Budapest and Vienna. In Vienna he injected an old woman from whom Professor Eiselsberg removed the greater part of her thyroid, weighing over 12 oz., with the greatest success. These results were due to Jonnesco's discovery, which enabled him to incorporate strychnine with novocain. Novocain was a depressant to the vital centres. Strychnine, on the other hand, was a stimulant. When these drugs were mixed together and injected into the subarachnoid space the strychnine, by neutralizing the depressing effect of novocain, prevented the occurrence of respiratory paralysis. For operations on the upper part of the body he inserted the needle into the first, and for operations on the lower half into either the eleventh or twelfth dorsal spaces. He rarely used lumbar puncture, since better results were obtained by making injections into the dorsal region. There was no advantage in making a cervical puncture, for perfect analgesia lasting an hour or longer could be obtained in the head and neck by injecting the solution between the first and second dorsal spines. The great danger of spinal analgesia was the likelihood of respiratory paralysis supervening; but now that it was known that strychnine prevented its occurrence, it should be the duty of every one employing this method to incorporate this drug with the analgesic solution.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.—At a meeting in Leeds on May 21st, Dr. J. W. MARTIN (Sheffield), President, in the chair, the following were among the exhibits: Dr. E. O. CROFT (Leeds): (1) The left kidney from a fatal case of *Pyelitis in pregnancy*. The patient died in coma a few hours after a series of three fits. She was six months advanced in her second pregnancy. The first pregnancy occurred six years before, and the labour had been followed by convulsions. The kidney was hydronephrotic, and contained a large quantity of milk-like pus. The dilated and thickened ureter contained caseous material. The right kidney was normal in size, and on naked-eye section showed evidence of slight fatty degeneration; its capsule stripped easily. (2) A large, solid *Broad ligament tumour* of unusual character. It had been enucleated from the broad ligament of a woman of 47 years without injuring the corresponding tube and ovary. It weighed 14½ lb., and measured 10 to 12 in. in various diameters. On section it showed a central, well defined, oval mass, 5 or 6 in. in diameter, of the consistence of a soft uterine fibroid and of a light brick-red colour. This was surrounded by a broad band of material of a myxomatous appearance. From this area a considerable amount of fluid exuded. The tumour was apparently an oedematous fibroid which had undergone central "red degeneration" and myxomatous degeneration of the peripheral portion. Dr. CARLTON OLDFIELD (Leeds): A specimen of *Carcinoma of the cervix* which had been removed by Wertheim's method. The patient was only 30 years of age. She was also suffering from syphilitic rubra and ecthyma. One enlarged lymphatic gland was found in the parametrium close to the cervix. Mrs. ORFORD (Pontefract): A specimen of *One-eyed monster* (cyclocephalus). Dr. J. B. HELLIER read the notes of a case of *Double uterus and vagina with unilateral haematocolpos*. The patient, aged 16, had menstruated regularly and normally for two years, with a little dysmenorrhoea. For some months she had noticed a swelling at the vulva but only at the monthly periods. Retention of urine led her to seek advice. There was a normal vaginal passage leading to a normal cervix uteri on the left side. On the right was a cystic swelling occupying the whole length of the vaginal wall, and protruding from the vulva. On incising this about 6 oz. of dark red inspissated menstrual fluid escaped. The right half of the uterus was also dilated but there was no sign of a haematosalpinx. The vaginal septum was completely excised. The patient had menstruated normally since. Dr. Hellier also showed a *Uterus with double pyosalpinx*. The uterine body had been amputated because both tubes and ovaries had to be removed. There was a septum extending to the os externum, and completely dividing the uterus into two cavities.

Reviews.

THERAPEUTICS.

DR. I. LIPOWSKI,[1] in the preface of his book on the value of the more important new drugs, says truly that to estimate the therapeutic value of new drugs put forward by able researchers, or as commercial speculations, is a hard task for the doctor. The volume is an attempt to place the new chemical drugs on a plain basis in the mind of the practitioner who, the author wisely assumes, has forgotten the chemistry he learnt as a student. Dr. Lipowski does not pretend to deal with all the vaunted synthetic remedies, but only with those proved in his own experience, or attested by reliable authorities. The drugs discussed are classified on the whole according to their chemical composition, but where such an arrangement would be inconvenient the author has wisely dropped it. Thus, in addition to sections dealing with the derivatives of methane, benzene, and the alkaloids, there are sections on antiseptics, new purgatives and diuretics, preparations of organs, serums, and new foods. Most of the important drugs recently introduced are mentioned, and discussed clearly but thoroughly. The short section on new purgatives treats of purgatin or purgatol, exodin, and purgen. It is shown how anthraquinone is related to anthracene, the active principle of rhubarb, cascara, and other purgatives; the trioxyanthraquinone works so strongly in the intestine that colic is caused. The problem was, therefore, to combine this substance in such a way that it would be set free gradually in the intestine and a moderate but efficient stimulation obtained. Such a combination was found in the diacetyltrioxyanthraquinone or purgatol. Of the new diuretics

[1] *Anleitung zur Beurteilung und Bewertung der wichtigsten neueren Arzneimittel.* I. Lipowski. Berlin: Julius Springer. 1908. (8¼ in. by 5¾ in.; with an introduction by Professor Senator.)

of the xanthin class theocin is the most active, but it may stimulate the brain even to convulsions, and is irritating to the gastric mucous membrane; these serious disadvantages are avoided by using theocin sodium acetate, but it is best to give even this in the form of suppositories. Theobromine sodium salicylate or diuretin is recommended in heart failure, either combined with digitalis (pulv. fol. digit. gr. jss, diuretin gr. xv, three to five times a day) or after digitalis has ceased to produce diuresis. The sodium acetate salt of theobromine, agurin, has the advantage over diuretin that it upsets the digestion less; it should be given in rather smaller doses. The author does not speak well of the artificial digitalis preparations. Digitalin is, he says, usually digitoxin, and digitoxin, or digalen, is so poisonous that it is only recommended when a rapid action is imperative; the drug should then be injected into a muscle or a vein, as it is extremely irritating when put under the skin. On the whole Dr. Lipowski prefers the powder of digitalis leaves; when made from a large quantity of material and very carefully dried, this preparation will keep its strength for a long time, and should be standardized by its action on the frog's heart. The powder acts more slowly than the separated active principle, but in heart disease this is often an advantage. We can recommend this little treatise, and regret that we know of no equally informing and readable book of the kind in our own language. Between 200 and 300 drugs are discussed.

In a little volume on sleeping draughts by Dr. C. BACHEM[2] the composition, pharmacological action, and doses of all the more important hypnotics are carefully described under three main groupings—namely, those containing (1) halogen elements, (2) alkyl radicles, (3) aldehydes or ketones. The general and local anaesthetics, the anodynes, such as opium, and the sedatives, such as bromides, are not considered. Each drug is briefly, readably, and systematically discussed, the name of the manufacturer and, in many cases, the price being given. Of especial value are the sections upon the effects of the drugs other than the hypnotic effect. A short bibliography of each substance is also provided. The author speaks highly of bromural in cases in which no severe pain is present, and, so far as observations have been recorded at present, the drug seems to be freer from undesirable after-effects than many others. It is, however, apt to fail in the most difficult cases. For mild cases of sleeplessness hedonal is recommended in doses of 20 to 30 grains, and is best given in cachets. It is claimed that there is no stage of excitation or fear of cumulative action, and little danger of the patient becoming accustomed to the drug, whilst unpleasant secondary effects are rare. Veronal is treated at some length, as befits its wide use, and is described as a relatively harmless and reliable hypnotic, particularly in neurasthenia, senile dementia, mania, melancholia, paranoia, delirium tremens, hysterical sleeplessness, alcoholism, and morphinism. It may also replace morphine in the cough of phthisis. One disadvantage is the varying time which expires between the administration of veronal and the production of its effect. It may be tried in valvular disease of the heart, and does not irritate the kidneys. Apart from its action as a sleeping draught, veronal has been found useful in the night sweats of phthisis; indeed one author places it before both agaricin and atropine in this respect. It is also recommended in the hyperemesis of pregnancy, in epilepsy and multiple sclerosis, and as a prophylactic against sea sickness. The bad effects which have been observed are nausea and various rashes, headaches, giddiness, and even coma. Women appear to bear veronal, like sulphonal, rather worse than men. A number of instances of the formation of a veronal habit are recorded, and the doctor is advised never to prescribe more than six to ten powders of half a gram (7½ grains) at once, and to write on the prescription "*Ne reiteretur.*"

Dr. TYRODE'S[3] *Pharmacology* purports to "give the facts essential to an ordinary medical student without profound scientific discussions of opposite opinions," and the reader will not, therefore, be surprised that it is throughout dogmatic rather than judicial. The style suggests that the author has published his lecture notes with but little expansion. Here and there are expressions that we could wish improved upon in a subsequent edition; particularly might the free use of superlatives be modified with advantage, and exacter terms than "infinitely more marked," "terrific," and "tremendous" would carry greater weight with the reader. The student will find a concise and up-to-date account of the actions of the more important drugs, but such matters as the general modes of action of drugs, idiosyncrasy, tolerance, and the growing and important subject of the relation between the chemical structure and physiological action of medicines, are inadequately treated; so that we fear we cannot recommend the volume to those reading for examinations in pharmacology in this country. For the practitioner who needs a book which will give him in some detail the action of any particular drug he may be desiring to use the information is too scanty, for some important drugs, such as strophanthus, receive only the briefest mention.

The structure and properties of the colloids are likely to occupy the attention of scientific men for an indefinite future period, since living tissue is colloidal. To the chemist, the biologist, the bacteriologist, and the physician, the study of these is of great importance, but is only just beginning to be intelligible. The term "colloid" has been extended beyond the limits in which it was used by Graham, for there are many substances not ordinarily known as colloids which do, under certain circumstances, form colloidal solutions, or solutions which are physically comparable to very fine emulsions—a state between the liquid and the solid—the substance being in molecular aggregates too small to be seen by the ordinary microscope. Dr. STODEL, in his recent book on the subject,[4] first gives a general review, and then describes the methods by which colloidal solutions of metals, such as gold, silver, platinum, and mercury, may be produced. An interesting and readable account is given of the method of examining very fine particles by the ultramicroscope, and of the results of calculations of the actual size of the various colloidal particles; a discussion follows of adsorption, the movement of electrolytes, the action of electrolytes on colloids, and the action of colloids upon one another. A section on the colloids in biology treats of the various body fluids and of diastatic action, absorption, and immunity. The specific properties of the colloidal metals are then considered, and the inhibitory action of collargol upon bacterial growth, and its action upon the tissues when it is injected into the veins of an animal, described. The section on the treatment of disease by metallic colloids is less satisfactory, as the proof that these substances, in virtue of their catalytic and bacterio-inhibitory powers, exercise any definite effect upon morbid processes is naturally difficult to obtain. From the figures given it appears that, with medication of this type, the fatal diseases continue to be fatal, and the recoveries in the complaints amenable to treatment do not seem to be more frequent than is the case with the means, based upon a more secure pharmacological foundation, which we have at our disposal. The matter is capable of experimental proof, and we prefer to withhold judgement until a much larger number of observations upon infected animals has been made. The last part of the volume is occupied by a discussion of colloid mercury, electrically prepared. Dr. Stodel gives bacteriological experiments which lead him to conclude that colloidal mercury is more active as a germicide than the perchloride and is less toxic to rabbits. The electric colloidal preparation in isotonic solution is also not haemolytic for the red corpuscles of the dog. Therapeutic doses injected into the veins or muscles of man produce leucocytosis in twenty-four hours. The use of colloidal mercury, electrically prepared, in syphilis is illustrated by 59 cases of the primary, secondary, and tertiary disease. The author states that the intramuscular injection is painless and rarely gives rise to local reaction. Intravenously, large and repeated doses may be used without giving rise

[2] *Unsere Schlafmittel, mit besonderer Berücksichtigung der neueren.* Von Dr. C. Bachem. Berlin: August Hirschwald. 1909. (8¾ in. by 5¾ in. 88 pp.)

[3] *Pharmacology: The Actions and Uses of Drugs.* By Maurice Vejux Tyrode, M.D. Philadelphia: P. Blakiston's Son, and Co. 1908. (9 in. by 6½ in.)

[4] *Les colloïdes en biologie et en thérapeutique. Le mercure colloïdal électrique.* Par G. Stodel. Paris: Vigot Frères. 1908. (10 in. by 6½ in., pp. 282. Fr. 6.)

to toxic symptoms. Intraspinal injections are followed by a temporary meningeal reaction only. Solutions containing 0.5 and 1 gram per mille were used. Three c.cm. of the weaker solution may be injected into the muscles daily. In severe cases 5 to 10 c.cm. may be injected daily into a vein. The intraspinal injections of 3 c.cm. were used once a week and of the stronger solution 2 or 3 c.cm. may be given intramuscularly.

In this volume Dr. v. WALDHEIM[5] discusses the elimination of poisonous material by the skin, the promotion of which he describes as an effective method of treatment of all forms of fever. The book is intended to show whether the old view that the excretion from the skin in health and disease contains important poisons the retention of which will injure the body, or the modern teaching that it consists merely of water, carbonic acid, urea, salt, and minute quantities of fatty acids which are of little significance, is correct. The author does not appear to doubt that every one is definitely for one or other of these propositions. He himself is perfectly clear, and believes that modern medicine has wandered in error on this matter for the past eighty years, and that thereby enormous harm has been done to mankind, to science, and to the medical profession. The first sixty-nine pages are occupied with a review of the older teachings as to the nature and treatment of fevers, from the time of Hippocrates to the present day; the next forty pages treat of the work of Jäger and Lahmann. The author then describes very briefly his own experience, telling how he has cured himself of phthisis more than once, including attacks of rhinitis, angina, pharyngitis, tracheo-bronchitis, laryngitis (on one occasion with perichondritis), and influenza, by the Jäger-Lahmann process of wet packs, massage, and a dry diet. Then follows a long list of the diseases to be treated by this method. Aural surgeons will be interested to know that mastoid inflammation as a complication of suppurative otitis media can be prevented with certainty. Dr. v. Waldheim details the various fatty acids passed out in the sweat, which are in such small quantities that they are recognized chiefly by their odour, and concludes that the benefit which experience shows to follow a free perspiration is due to the removal of substances exerting a harmful influence on the organs of the body, particularly the brain. On the statement that a nerve is more irritable when it contains less water—which we may remark is only true within very small limits—he concludes that the beneficial result of sweating is partly due to the withdrawal of water. The compensating effect of more or less secretion of urine is not mentioned at this part of the argument. Bacteria, also, are said to be passed out, and hence free perspiration lessens the number of these in the body. No more need be said to show that the book is one of those not uncommon productions of an enthusiast bent, though probably all unconsciously, on riding his hobby to death. Anything that any one has written which seems to support the views of the author is dragged into the argument. The dietetic and balneological measures advocated are in themselves useful weapons in the therapeutic armoury, but, when applied and advocated with lack of judgement, an important branch of medical work is brought into disrepute. In spite of the proverb, it is possible to have a great deal too much of a good thing. Of bad things, such as hasty conclusions and analogies masquerading as proofs, a very little is too much, and 166 pages insupportable.

In a reprint of a paper in the *Deutsche monatschrift für Zahnheilkunde*, Dr. C. RÖSE[6] begins with an introduction in which he says that when clinical observation shows that certain degenerations are becoming more and more evident in areas deficient in particular saline constituents of the food and drink, we may conclude that the want of the salt or salts is the cause of the degeneration. Such a process of reasoning does not lead us to hope for real accuracy of thought in the rest of the book. There is, however, a valuable series of statistics gathered from various regions in which the hardness of the water is compared with the incidence of diseased teeth, and accompanied by exhaustive discussions of their meaning. The following conclusions may be mentioned: The harder the water the less the incidence of dental disease and of rickets, and the greater the quantity and alkalinity of the saliva. On a similar statistical comparison the author concludes that certain districts in which military ability is least marked owe this distinction to the fact that the drinking water is poor in calcium and magnesium. "Lime-poor" stock is a bad recruiting material. It follows that it is of the greatest importance, if we wish to be able to bite our food and to annihilate our enemies, that none of the salts in the food should be wasted. To this end, vegetables should be steamed and not boiled. We find ourselves in full agreement with the author's conclusion that the best cure for the evils attributed by him to lime starvation (and incidentally for most others) is that advised by Goethe—

> Leb mit dem Vieh als Vieh
> Und acht es nicht für Raub
> Den Acker, den zu pflanzest, selbst zu düngen,
> Das ist das beste Mittel, glaub,
> Auf achtzig Jahr dich zu verjüngen.

DR. FERDINAND HUEPPE,[7] in a monograph upon chicory, after reviewing the literature of the subject, which is mostly hostile, points out that the harmful effects of an excess of coffee are to be ascribed to the caffeine it contains, and that the addition of some other material which does not contain caffeine is, therefore, desirable. Chicory when roasted provides a bitter taste, contains volatile oils, and gives a dark colouring to its infusions. Analyses are given of chicory from seven different regions of the Continent. The bitter taste is said to be derived from the cooking of inulin, and the dark colour from inulin and sugar. Beyond the statement that there is insufficient reason to believe that chicory is harmful, no evidence is brought forward to show whether it has any specific effects or not. The author in the early pages proposes to investigate the matter, but reaches the end of the pamphlet without describing any new pharmacological experiments.

PARCIMONY IN NUTRITION.

WHEN a Lord Chancellor's Visitor in Lunacy intervenes into a controversy on dietetics one is inclined to say, Que diable allait-il faire dans cette galère? But Sir James Crichton-Browne is, if not omniscient, a very able advocate who can get up his brief admirably. His book, *Parcimony in Nutrition*,[8] is founded on a popular lecture delivered at Buxton last year, revised and enlarged. It is superfluous to say that it contains much that is wise and well expressed, but he throws all the weight of his influence on the side of those liberal feeders who after middle life come so surely into the hands of the physician. It is true that he says "there is far too much adipose tissue about in certain social strata," and he admits that some people eat too much, but his general line of argument is that a full and generous diet, especially in the allowance of proteid food, is the basis for individual and racial superiority. He makes many doubtful statements—for example, that "the whole population of all civilized countries" (p. 7) uses an ample diet, especially of proteids; that this diet has been founded upon "statistical and experimental studies" (p. 7), although elsewhere (p. 22) he admits that "the science of dietetics is based on common observation and on the hereditary customs and habits of mankind"; that "all the successful races have habitually consumed proteid far in excess of the Chittenden standard," although the Greeks and Romans were largely vegetarian in their diet, and we have no data upon which we can estimate the proportion of proteid consumed by them; that "the best fed races and classes are always the best tempered," a statement which, so far as classes in England are concerned, will not, we suspect, generally be accepted; while, as to races, the West African negroes and the Irish are generally admitted to be the most good-tempered people although among the worst fed; the well-known case, too, of the bear quoted by Liebig directly

[5] *Die Perkutane Entgiftung.* Von F. Schürer v. Waldheim. Wien und Leipzig: Spielhagen und Shurich. (10 in. by 7 in., pp. 166. 10 Kronen.)

[6] *Erdsalzarmut und Entartung.* Von Hofrat Dr. med. C. Röse. Berlin: Julius Springer. 1908. (9½ in. × 6¼ in., pp. 156.)

[7] *Untersuchungen über Zichorie.* Von Dr. Ferdinand Hueppe. Berlin: August Hirschwald. 1908. (8¾ in. by 5¾ in., 37 pp.)

[8] *Parcimony in Nutrition.* By Sir James Crichton-Browne, M.D., LL.D., F.R.S. London and New York: Funk and Wagnells Company. 1909. (Cr. 8vo, pp. 118. 3s.)

contradicts Sir James's theory. Again, he says: "In all civilized countries the working classes have as far as practicable arrived at a tolerably uniform diet," which is very far from accurate, as workmen in England, America, France, Germany, Spain, and Italy do not eat a "tolerably uniform diet." Moreover, while he has a perfect right to criticize Chittenden's conclusions, he need not create prejudice by mixing them up with many foolish statements from writers on quite a different plane, like Fletcher, Carrington, Dewey, Kellogg, and other members of the great army of faddists. When he quotes Mr. Rowntree as saying that a large proportion of our population is underfed he ought to have added that Mr. Rowntree based this conclusion on the assumption that Voit and Atwater's standard of proteid dietary was universally accepted. Sir James claims that civilization is "not the antithesis of nature but a higher branch of natural history." We take him to mean by this that the habits and customs of civilization are the results of natural evolution, and that consequently the dietary which civilized men have adopted can be regarded as a conclusion arrived at on the principle of the survival of the fittest. This was a principle the late Sir William Roberts was fond of enunciating, and though it contains an element of truth, it ought to be applied with discrimination; it may equally be argued that so far as man's physical development is concerned, civilization has been a continued struggle against evolution, and consequently contains in itself the seeds of failure and decay. Horse-keepers tell us that the full diet given to the fine animals we see drawing railway wagons enables them to do a large amount of work, but their lives are short; so, too, with man it is probable that a full diet containing much proteid enables him to do a maximum amount of work, but it by no means follows that it is favourable to his continued health or to his prospects of longevity. We may be quite prepared to allow that Chittenden's conclusions require confirmation, and that this can only be obtained by further experiments and observations, and we may agree fully with Sir James Crichton-Browne that during the growing age a liberal supply of proteid is necessary, without sympathizing with his rhetorical attack on Chittenden and those who believe with him that economy in nutrition may be obtained on a diet which, while considerably below the Voit and Atwater standard, sufficiently maintains health and strength and does not cause the development of those disorders of metabolism which are unquestionably associated with overfeeding. It is probably true that in England gross and excessive indulgence in food is by no means so common amongst the educated classes as it was a hundred years ago, but it is still seen in all ranks, and the belief in the need for large quantities of food is widespread; it is also true that a small minority of faddists go to the other extreme and eat too little; but while the physician is well acquainted with the diseases resulting from excessive eating, he has as yet learnt comparatively little about those depending upon under-feeding, except where morbid conditions interfere with the normal desire for food.

FACE MASSAGE.

The treatment of morbid cutaneous conditions of the face by means of massage has been somewhat neglected, owing to the impudent quackery associated with face massage. But there is no doubt that the method is valuable in such diseases as acne vulgaris, acne rosacea, and so forth, in combination with rational general treatment of each individual case on its merits. Dr. Jacquet has recently called attention once more to the beneficial results obtained by pinching up the skin of the face, followed by superficial *pétrissage*, a method he calls "plastic massage." One of his pupils, Dr. Leroy, who has employed this method, has written an instructive monograph on the subject,[9] in which the various modes of using massage are compared with the method suggested by Dr. Jacquet. A *sine qua non* is that the hands must be kept scrupulously clean. No ointments are used, but a powder (kaolin, talc, etc.), in order to give a purchase on the parts. A strong yet delicate male hand is required to apply the proper amount of pressure requisite in each case, commencing lightly, and gradually increasing in vigour. As before stated, general treatment is important—in acne cases, for instance. Suggestions are made as to where mastication, vegetarianism, attention to the teeth, bowels, etc., are indicated. Details of 25 cases are given, in which the facial manifestations were associated with a variety of etiological factors. Dr. Leroy's work will well repay perusal by any one desirous of giving the method a trial.

[9] *Le massage plastique dans les dermatoses de la face.* Par le Dr. Raoul Leroy. Paris: Alex. Coquoz. 1908. (Roy. 8vo, pp. 193; 11 illustrations. Fr. 4.

NOTES ON BOOKS.

The transactions of the International Society of Surgery at its meeting in Brussels last year have been published in two volumes, entitled *Deuxième Congrès de la Société Internationale de Chirurgie, Bruxelles, 21-25 Septembre, 1908.* Vol. i, *Procès-verbaux et Discussions*, et vol. ii, *Rapports.*[10] The proceedings were reported in our columns at the time, but surgeons all over the world will be glad to have the full text of the papers and of the discussions, for this society is in a way unique. It is an extremely business-like society; its members are limited in number, since only those surgeons invited by the international committee can become members, or attend its meetings; and, judging by the proceedings of the two meetings which have been held, it intends to devote itself to the discussion of practical matters directly concerning operating surgeons actively engaged in that department of professional activity. The volumes have been edited by the Secretary-General (Dr. A. Depage) and the Secretary of the congress (Dr. L. Mayer), and have been very well and clearly printed by the Royal Printing House in Brussels. The way in which the volumes have been prepared for the press and their relatively early publication reflect the greatest credit upon the two editors, and the only criticism we feel called upon to make is that the photographs are not so well reproduced as desirable. The papers are published in the official languages, English, French, German, or Italian, according to the nationality of the author, and the volumes will form an indispensable part of every reference medical library.

The latest fascicule of the *Archives of the Middlesex Hospital*[11] marks a new departure and bears a subtitle, "Clinical Series No. 1." It contains some half-dozen papers, mainly of a clinical order, and the reports of the medical, surgical, and obstetric registrars for the year 1907. In future there will be four issues yearly, one of them dealing with the cancer laboratory and the connected work, and the other illustrating the teaching of the hospital in respect of the latest developments of medicine and surgery.

Mr. Walker-Tisdale's little book on *Milk Testing*[12] is intended to give farmers, dairymen, and milk consumers information with regard to simple tests for ascertaining the purity and quality of milk. Thorough knowledge of the subject is shown by the author, and the book should prove useful within the limits of its purpose. It is probable, however, that a farmer or dairyman who was willing to go to the trouble and expense of providing the apparatus, etc., described would find it better to make an arrangement with a competent chemist for the systematic checking of his milk. The danger in imparting a little knowledge is illustrated by such a statement as "annatto colouring is of a harmless character, owing to its being of vegetable origin," no caution being expressed against the natural inference that any substance of vegetable origin must be harmless.

The volume entitled *Studies from the Department of Pathology of the College of Physicians and Surgeons of Columbia University* is the eleventh of a useful series. Most of the papers contained in it have appeared in some one or other journal during the past two years, but their collection in this form makes reference to them easier than it otherwise would be. Included is an elaborate paper by Drs. Bovaird and Nicoll dealing with the weight of the viscera in infancy and childhood. The average weight of 495 thymus glands of children of all ages from birth up to 5 years old was 5.9 grams. The extremes were 4.6 grams for the second month, and 7.7 grams at birth. The cases were unselected, and represented the result of all autopsies at the Foundling Hospital during a period of about three years.

[10] Bruxelles: Hayez. Roy. 8vo; vol. i, 628 pp.; vol. ii, 916 pp.

[11] Macmillan and Co. Pp. 102.

[12] *Milk Testing: A Simple Practical Handbook for Dairy Farmers, Estate Agents, Creamery Managers, Milk Distributors, and Consumers.* By C. W. Walker-Tisdale, F.C.S., N.D.D. Northallerton: W. E. Smithson. 1908. (Cr. 8vo, pp. 78. 1s.)

In *The Mystery of Existence*[13] Mr. C. W. ARMSTRONG essays the task of making metaphysical theories fit in with established beliefs. Even though—for him—conscious being is merely an incidental, if not accidental, exhibition of the subliminal self, which is an intrinsic part of the general World-spirit, individuality exists and is growing. So, too, does free will, while love is a necessity and the aim of the whole World-spirit. Similarly, although matter is merely the concrete idea or conviction of the World-spirit, it is perfectly real. There is a God whose powers are only finite in that they are regulated by the Laws of Nature, which are the Law of Thought, this in its turn being the Law of Mathematical Possibility. If there are any persons who have studied metaphysics sufficiently deeply to follow the writer's arguments and understand his terms, but not deeply enough to have learnt to keep working beliefs and metaphysical conceptions comfortably packed away where they can do one another no harm, this book will probably meet their case. Its direct interest for medical men is the view of the author that predominance of a belief in immortality retards the progress of hygiene. Continuance in this world being a matter of secondary importance, attempts to prolong life have hitherto been insufficiently resolute. Some day or other the span of normal terrestrial existence will be so long that original thought or research will be expected of no one under the age of 70. Over-population of the globe will then be prevented by restriction of the right to propagate species.

[13] Longmans, Green and Co. 1909.

THE SEVENTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

THE SECTIONS.

Lipoids and Pharmacological Action.

DR. HANS MEYER, speaking in German before the Section of Physiological Chemistry, read a very able paper on the relations between lipoids and pharmacological action. He stated the evidence in favour of the theory that the animal and vegetable cell protoplasm practically consist of minute albuminoid particles encompassed by layers of lipoids, which take up water, salts, and fat solvents. This lipoid prevents the hydrophile colloids, enzymes, albuminates, etc., from diffusing out of the cell at random or from acting on each other. It further allows of the taking up of oxygen and carbonic acid. The carbon dioxide in the blood cell renders the cell permeable to sugar and anions, and in a similar manner the fat solvents act on the lipoid of other cells, rendering the intake of water, salts, and other substances possible. Turning to the phenomenon of haemolysis, he described the various degrees of solution of lipoid content of blood cells, and applied a similar argument to other forms of cytolysis. Narcosis and anaesthesia could be understood from a study of the lipoids; heat partially liquefied these fat-like substances, and the unconsciousness of fever was due to a heat change in the lipoids of the brain cells. Experimentally this would be demonstrated by placing a frog or other cold-blooded animal in warm water. Water at 38° C. caused anaesthesia in the frog in a few minutes, but it could readily be awakened by immersion in cold water. Anaesthesia by heat in warm-blooded animals was not safe, because the lipoids were not affected until the temperature was near that which coagulated proteids. Fat-dissolving gases, however—such as ether and chloroform—could effect a safe partial solution of the lipoid of the brain cells. As soon as they were removed the lipoids returned to their original condition and the person awakened. The narcotics acted in a similar manner, and the narcotic power of a drug depended on its lipoid-dissolving power. The actual pharmacological action was measured by the smallest molecular concentration of the substance which would put small fish to sleep when immersed. He had found that the "distribution coefficient" obtained by dividing the solubility of the substance in fatty substances by the solubility in water stood in direct relation to the pharmacological action. A table of narcotics, including trional, tetronal, etc., showed this relation clearly. Narcosis was thus a change in the physical condition of the lipoid, and this change involved a corresponding change of the normal permeability of ions of the cells. On this theory irritability of cell and pharmacological action could, he contended, be adequately explained.

Professor B. MOORE, who spoke next, dealt with the chemistry of the unsaturated fatty acids. Basing his opinion on the evidence obtained by his own researches and those of other workers, he came to the conclusion that lipoids were not independent chemical substances, but part and parcel of the large cellular molecule, which consisted of carbohydrates, proteins, and these fatty substances. In substance he agreed with much that Dr. Meyer had said. He believed that some narcotics—for example, cocaine—do not owe their action to their fat-dissolving power.

Dr. NICLOUS supported Dr. Meyer's theory of the function of the lipoids. He had conducted experiments with Mlle. Frison which demonstrated that the various portions of the central nervous system of an animal killed by prolonged chloroform intoxication took up chloroform in direct proportion to the amount of lipoid or lecithin of that particular part.

Dr. BARBIERI failed to convince the majority of those present that lecithin does not exist. Part of his communication dealt with the analysis of the yolk of eggs, while the second part dealt with the chemical constitution of the nervous system.

In reply to Professor B. Moore's objection to the assumption of a separate entity called lipoid, Dr. MEYER pointed out that the only difference between them was that he believed that the lipoid surrounded the protoplasmic particles as a membrane, while Professor Moore regarded it as a part of the protoplasmic molecule.

In this connexion Dr. ROSENHEIM read a paper proposing a recasting of the nomenclature of the lipoids. The ideas expressed, although based on rational grounds, did not meet with much support.

Control of Food Supplies.

In opening the discussion on the systems in force for the control of the food supply, Dr. WILEY made a very long communication, which in substance consisted of: (1) A description of the American laws placing a tax upon food products, and of the laws controlling inter-State and foreign commerce; and (2) the methods employed in the several States of America for detecting adulteration and misbranding, and for punishing the persons offering such foodstuffs for sale. Tea, spirits, wines, cheese, mixed flour, oleo-margarine, and butter were, he said, subjects of special legislation. The sale of meat was controlled by a Meat Inspection Act, and the misbranding of food and dairy products had been rendered a punishable offence; the Food and Drugs Act of 1906 dealt with adulteration and misbranding. The State and municipal laws affecting food control were administered by the Secretary of Agriculture and the Bureau of Chemistry centrally and by State officials locally. When the foodstuffs were liable to duties or taxes, the Treasury Department in the Bureau of Internal Revenue had the execution of the provisions. The method of taking samples for analysis was described; it consisted usually in taking three samples, each of which was sealed by the inspector. The method of taking action against offenders varied in the different States. The penalty was either a fine or imprisonment, or both. Imprisonment was usually reserved for a repetition of the offence. There were special arrangements for the control of imported goods, and when an analysis disclosed misbranding or adulteration, the goods had either to be relabelled or exported beyond the jurisdiction of the United States.

Dr. ROUX, the chief of the French Service, described the law of 1905, which dealt with commercial and sanitary frauds, but did not touch fiscal frauds. The Act was amplified by a number of supplementary laws. Frauds and falsification are determined by the ordinary methods, and the law deals with ordinary foods, liquors, grains, fodder, etc. Inspection was carried out by agents of each prefecture. Four samples for analysis had to be taken, one of which was sent to be analysed in the first instance, while the remaining three were reserved for a second official analysis, and for analyses by an expert of the Court and by another selected by the accused. There were thirty-seven administrative laboratories in which such analyses were carried out. The practical effect of this law was a diminution of misbranding from 26.2 per cent. of the analysed samples to 12.6 per cent. Dr. BORDAS

gave an account of the work of the laboratories of the French Financial Minister.

Dr. BUCHANAN spoke of the administrative methods of food control in Great Britain and Ireland. He passed in review the workings of the Public Health Acts, the Weights and Measures Acts, the Merchandise Marks Acts, and the Sale of Food and Drugs Acts. He dealt in some detail with the sampling officers and their duties, the work of the public analysts, the offences and prosecutions for contravention and on the general question of proper descriptions of food stuffs.

Drs. WANTERS and KERP spoke of the regulations in force in Belgium and Germany. They were followed by Dr. MCGILL who dealt with the control in Canada. He reported that the laws relating to the subject included: (1) The Adulteration Act, (2) the Inspection and Sale Act, (3) the Meat and Canned Food Act, and (4) the Canned Goods Act. The first of these acts was administered by the Minister of Inland Revenue, his deputy and the analyst of the department, assisted by six analysts and five clerks at Ottawa, four district analysts in different cities and a staff of sixteen inspectors. In taking samples, one was always left with the vendor, one was sent to the main laboratory, and the third at times to the district analyst. Adulteration of foods consisted in reducing quality or strength by admixture, substituting inferior substance, abstraction of valuable constituent, imitation or false naming, use of diseased or putrid material, addition of poison, strength or purity below fixed standard, colouring or coating to conceal damage, and milk or butter from diseased animals. Adulteration of a character injurious to health involved a penalty not exceeding $500 or six months' imprisonment, or both. A few articles of food were dealt with specially.

After Professor SCHAFFER had spoken of the control in Switzerland, Dr. VAN RIJN, in a very interesting paper, described in detail the Dutch method of butter control. He stated that, as the Director-General of Agriculture in Holland was a permanent official, and the present incumbent of this office an extremely energetic person, the control of dairy produce and meat had received very careful consideration. In order to safeguard the export trade and to guarantee the purity of inland supply the official certificate, including a certificate, label, mark, stamp, or other voucher, was the first guarantee recognized by the British Local Government Board. In the past adulteration of butter was common in Holland, and the first step was to introduce uniform methods of analysis. These methods were also adopted in England. The difficulty in setting up a standard of quality of butter was insurmountable, and for this reason the method included the registering of the components of each parcel of butter by an analysis of the sample of the parcel, taken at the dairy from which it issued. The director or inspector visited the dairy when advisable and took a sample. The analysis of the sample was registered and the butter of the yield made in the presence of the inspector was stamped with the official stamp. In this way the record of every yield of butter at any time of the year was registered, and it was easy to trace by means of the register the origin and destination of every parcel. If such a butter was exported to England and offered for sale, a sample of it could be taken for analysis. The number being known, it was essential that the analysis made in England should correspond within narrow limits to that registered in Holland, and to which the English officials had access. The method of stamping was described, and books of specimen labels were handed round for inspection.

In the discussion, Dr. MCKERP pointed out that fraud might be practised by cutting off the upper layers of the butter, including the label, and adulterating the remainder. He also raised the question whether the labels could not be imitated. Dr. THORPE spoke in terms of high praise of the method which he had personally investigated in Holland for his department. He described the system as one which was as perfect as human ingenuity could devise. It had revolutionized the position of Dutch butter on the English market. In reply, Dr. VAN RIJN said that although the removal of the upper layer was theoretically possible, it would not be difficult to detect such a fraud, and in practice it did not occur. The labels could not be imitated more easily than a bank note.

A few other papers dealing with other branches of the same theme concluded this important and interesting discussion.

Preservatives in Food.

The discussion on this subject was opened by Mr. CRIBB, who read a communication by Mr. Bevan, in which the author advocated the prohibition of all preservatives in foods. Dr. Thresh's paper, read by Dr. RIDEAL, argued against the indiscriminate use of preservatives, but adduced evidence to prove that preservatives in reasonable quantities had not been shown to be injurious, that in many cases their use was legitimate and of benefit to the community, and that only in certain cases was the use of chemical preservative unnecessary and undesirable. Dr. WILEY, on the other hand, maintained that under all conditions preservatives should be regarded as adulterants. A trace of copper sulphate in peas might not harm a robust person, but to many weakly persons and invalids such additions must be highly injurious. Preservatives were unnecessary, and he wished to see them swept away. In the discussion, it was urged, from a trade point of view, that preservatives were indispensable. Another member considered that the trade could get on very well with pasteurization, and tried to show that the addition was not even in the interest of the producer.

Standards for Foods and Drugs.

Dr. BECK opened a discussion on the advantages and disadvantages of legally binding standards of composition. He considered that the amount of water in butter had increased generally since the adoption of a legal standard, and in consequence the dry butters of the Colonies had virtually disappeared from the market. Standards for natural products or articles of simple manufacture were of very doubtful utility; a standard was futile in the case of mixtures, such as coffee and chicory, because quality was of much greater importance than quantity. The setting up of legally binding standards in respect of the use of preservatives, colouring matter, etc., in foods was essential.

M. WANTERS regarded a standard for foods as unfair to the producer, who could not continuously make analyses of natural products, but might at any time be prosecuted for variations in composition for which he could not morally be held responsible. If the limits of the standard were wide no good purpose could be served, while whether they were wide or narrow, they would prove to be the means of legalizing frauds in the hands of unscrupulous persons.

Messrs. MOOR and PARTRIDGE considered the question not only from the standpoint of the public and the producers, but especially in the interest of the poor, who needed protection. The setting up of standards saved the producer from unfair competition and satisfied the administrators that uniformity would be secured. He suggested certain standards for aërated waters, baking powder, beer, and brandy. With regard to bread, he contended that not more than 40 per cent. of water should be allowed. The amount had been in certain cases as high as 58 per cent. He considered that the standard of 16 per cent. of water in butter was too high, and the fixing of the standard had done good in reducing the quantity from 22 per cent., or even 24 per cent., and he thought a standard of 2 per cent. of salt advisable. Cream cheeses should contain at least 40 per cent. of fat; other cheeses at least 30 per cent. Cheeses containing less than this quantity of fat should be described as having been prepared from skimmed milk. No standard existed with regard to condensed milk, and he suggested that it should contain at least 10 per cent. of fat. Hand-skimmed cream should contain 10 per cent. and artificially-separated cream at least 50 per cent. of fat. Infant foods were rarely, if ever, examined under the Food and Drugs Acts; they should contain no starches and no impurities. The standard of 3 per cent. of fat in milk was still low; it was fixed at 3.5 per cent. in other countries. It had, however, risen from 2.5 per cent. He considered that the public analyst in every district should publish the percentage of fats contained in the milks supplied by the different dealers, mentioning them by name. In this way the public would be able to discriminate between the qualities of the various milks offered for sale.

Dr. KERP discussed the arguments for and against the setting up of standards. He considered that it would be impossible to determine generally whether standards were advisable, but that each foodstuff must be dealt with separately.

Professor WYSMANN dealt with the difficulties of setting up standards for wines, etc., which would not only fix the composition but also indicate the origin. With regard to milk, he considered that a legal definition should be the secretion from the udder to which nothing had been added, from which nothing had been abstracted, and which contained at least 2.5 per cent. of fat.

Dr. WILEY reported that hundreds of standards had been fixed in the United States, and he expressed himself in favour of efficient standards.

Dr. BORDAS contended that it was essential to have the co-operation of the manufacturers in fixing standards. He advised a waiting policy until the White Cross Congress should come to a decision. Mr. GILES described the work of the White Cross Congress at Geneva last year, which had tentatively fixed some standards; in Paris this year the manufacturers would recommend certain alterations in these standards, and next year a congress would consider how far the alterations had affected the hygienic value of the original provisions. A final congress would correlate the divergent views.

Sewage Effluents.

A large number of papers dealing with the treatment of sewage and sewage effluents were read. M. ROLANTS dealt with colloidal organic matter in sewage and its treatment by dialysis, by precipitation, and by agitation with an inert powder. Dialysis was unsatisfactory, the clarification method of Fowler by a ferric salt in alkaline solution had disadvantages, and better results were obtainable by precipitation with calcium phosphate. Agitation with talc or kaoline and filtration yielded much better results.

Papers were read by Mr. JOHNSTON on physical and biolytic purification of sewage, by Mr. DIBDIN on aërobic treatment, by Mr. SCOTT MONCRIEFF and by Mr. STODDART on nitrification. Dr. GROSSMANN read a paper on sewage sludge disposal, in which he pointed out that sludge after filtration and pressing into cake contained about 50 per cent. of solid matter. In many places the time was approaching when no further land would be available for dumping, especially since modern hygiene had shown that this method of disposal was not only objectionable but against all economic principles. The fact that sludge clogged up the soil detracted from its utility as a fertilizer. This was due to the content of fatty matter—grease and soap. About 400,000 tons of soap were used every year in this country, and practically all this found its way into the sewage. This meant that sludge would contain at least 5 per cent. of fatty acids. The recovery of the fatty acids by means of solvents or by destructive distillation was costly in the large majority of instances. Recovery by non-destructive distillation required careful consideration. He had experimented in this direction, and had set up a plant at Oldham capable of recovering 60 per cent. of the total solids of sludge as saponifiable manner. Each ton of sludge had yielded 1.4 cwt. of crude grease which had a marketable value of 9s. 9½d. The residue containing soil, organic matter, nitrogen, potash, and phosphate, was found to be an excellent manure. The value of this per ton of pressed sludge would be at least 3s. 9d. Estimating the values at a low figure, this would yield 13s. 6½d. for each ton of sludge containing 50 per cent. of water. The cost of working up the sludge was 6s. 11½d., so that there was a margin of 6s. 7d. a ton. Illustrating the value of this, he stated that in a town of 100,000 inhabitants, the cost of working up the sludge would be £2,610, whilst the sum realized by the sale of the products obtained would be £5,078, leaving a margin of close on £2,500.

In dealing with the tests for effluents suggested by the Royal Commission on Sewage Disposal, Dr. RIDEAL and Mr. BURGESS contended that local authorities should only be required to purify sewage so far that natural agencies could deal efficiently with the effluent without causing a nuisance. The Commission regard de-aëration and presence of suspended matter as the cause of nuisance, but the authors considered that anaërobic micro-organisms played an important part, and were concomitant with de-aëration. The Commission had fixed the limit of suspended matter allowable at 3 parts per 100,000, but the authors regard this as too generous, as such an amount would cause deposits in sluggish streams. Dr. Rideal criticized Dr. Adeney's apparatus, and claimed that his own modification was a better instrument, while his colorimetric method was most simple and convenient. Dr. ADENEY, replying, denied that the Commission had recommended the use of his apparatus for testing effluents. The object of these tests was to determine the aërability of the organic matter present. Dr. MACGOWAN, the chemist to the Commission, supported Dr. Adeney's arguments. Mr. SCOTT MONCRIEFF spoke in support of Dr. Rideal's arguments, while Mr. HALLIWELL questioned the advisability of these tests, and pleaded for the continued employment of the older chemical analyses. Mr. O'SHAUGHNESSY did not think that 3 parts in 100,000 a generous allowance for suspended matter in sewage effluent, and gave his opinion that gravimetric tests by means of centrifugation yielded better results than filtration.

Dr. FOWLER dealt with trade effluents. For tannery effluents clarification by simple subsidence was as a rule satisfactory, but mechanical filters might be required in some cases. Brewery or distillery effluents required special biological tanks and filters. Colouring matters in effluents did not constitute a dangerous element in sewage, but were frequently destroyed in biological filters. Alkaline sulphides should be treated with lime or copperas, dilute alkalis and acids should be neutralized, and other chemical products dealt with according to their action on fish life in varying concentrations. In conclusion he dealt with some aspects of the law relating to this subject. Dr. HAUPT spoke on the cost of the removal of some products of trade waste. Alkaline sulphides cost from 5 to 6 pfennigs per kilogram for removal. Dr. PURVIS considered that sulphuric acid was satisfactory for brewery effluents, and objected to the use of lime, which when discharged into rivers killed fish. Mr. COLEMAN challenged this statement. Professor KLASON dealt with the clearing of the outfall water from the sulphite cellulose factories in Sweden.

Sewage Pollution in Sea Water.

Drs. KENWOOD and KAY MENZIES discussed the requirements of a satisfactory test of pollution injurious to shellfish, and sought to determine whether sea-water contamination constituted a danger to bathers. The presence of *B. coli communis* could not under ordinary circumstances be regarded as a safe indicator, since *B. typhosus* might persist long after *B. coli communis* had disappeared. They considered that the presence of oxidized nitrogen in sea water in the form of nitrites would indicate contamination, but its absence would not guarantee freedom from contamination. Free ammonia might be accepted as a valuable clue to contamination, while albuminoid ammonia was not so suitable as an index. Neither oxidizable organic matter nor dissolved oxygen nor phosphates could be relied on to disclose contamination of sea water.

Dr. ADENEY demonstrated the simpler form of his apparatus for measuring the rate of absorption of dissolved oxygen in polluted water. The system depended on the absorption of oxygen dissolved in distilled water, which he considered better than the dilution system. He emphasized the fact that the work was pioneering work, and should not be regarded as finished. It was necessary to obtain agreement as to the interpretation of results before the methods could be adopted for general use. The paper and demonstration was much applauded.

Drs. PURVIS, MACALISTER, and MINNETT read a paper in which they adduced evidence that the total number of micro-organisms diminished more rapidly in a mixture of sewage and sea water than in sewage alone; that denitrifying micro-organisms could live longer in a mixture in which potassium nitrate was present, and that nitrifying organisms did not appear in sewage or sewage and sea water at any time.

A very animated discussion took place. Dr. RIDEAL entered a general objection to taking ammonia as the indicator of pollution of sea water; he described the methods which he considered best, including the determination of chlorine as well as ammonia, the samples being taken at different states of the tide and from the

bottom. He discussed some points with regard to Dr. Adeney's apparatus. Mr. HARRISON EDDY regarded the measurement of natural processes preferable to chemical measurements. In Boston the sewage was carried out a considerable distance from the shore, where the mass of water acted sufficiently in diluting the sewage to prevent a nuisance. The whole question was financial rather than scientific. Mr. HALLIWELL discussed the technical difficulties connected with Dr. Adeney's method, the chief being the necessity of constant shaking. He considered the apparatus Dr. Adeney had first described excellent, but did not like the simplified modification which he had demonstrated. Mr. Blake, of Belfast, stated that no smell was noticed when sewage was thrown into the sea, provided that a sufficiency of oxygen was present. Mr. ARDERN did not obtain satisfactory results with Dr. Adeney's second apparatus, and preferred the dilution method. Dr. DUYK thought that phosphate examination was more important than Drs. Kenwood and Menzies would have the members believe. Mr. O'SHAUGHNESSY considered that Dr. Adeney's method was preferable to the dilution method. Professor Lett was not present, but a paper was read by Dr. ADENEY, upholding the reader's views. The readers of the chief papers then replied, but did not bring forward any fresh ideas. On the whole, the objections raised to Drs. Kenwood and Menzies's paper, and to Dr. Adeney's communication were sufficiently met in the replies to gain a consensus of opinion. In his reply, Dr. PURVIS dealt in some detail with the methods of determining nitrates, which he considered required minute attention.

Lead Absorption.

Drs. GOADBY and GOODBODY read an interesting communication dealing with an investigation on experimental lead poisoning. Having described the methods adopted they stated that the compounds employed were white lead, "market pot," and litharge. The preparations were applied by inhalation, by feeding either alone or together with wine, and by injection. Cats were more rapidly poisoned by inhalation than by feeding. The dust entered the respiratory passages from which it was absorbed; lead sulphide could be demonstrated in the alveolar cells, in the perialveolar tissue and in the lymphatics after treatment of the tissues with H_2S. When alcohol in the form of cheap port was given simultaneously, the course of poisoning became acuter. Feeding even with large quantities produced very little toxic effect. Death by lead poisoning could be caused by the injection of lead acetate in doses of 0.05 gram per kilo body weight. In conclusion the authors described some experiments with lead compounds digested with gastric and intestinal ferments. The effect of gastric digestion on white lead was to cause a slight increase in the solubility of the lead compound.

In the discussion Sir J. CRICHTON-BROWNE questioned the correctness of the view that lead dust could be absorbed directly from the lung. Analogy had shown that carbon, tubercle bacilli, and other particles are not inspired directly into the lung, but gained an entrance from the gastro-intestinal channel through the lymphatics into the lung. Professor MOORE had experimented with heavy metals for a different purpose, and supported the view that the heavy metals were more poisonous when applied to a surface like the respiratory passages than when taken into the stomach. Mr. ARMIT was able to confirm the views of the authors that dust could be directly inhaled and absorbed from the respiratory passages. His work with the heavy metals, such as nickel, iron, and cobalt, had given very definite evidence that this occurred. He had found that the absorption was dependent on the relative size of the surface of the particles to be absorbed and of the absorbing surface. Even insoluble compounds such as sulphides of nickel, iron, and cobalt could be absorbed from the peritoneum, where the conditions were favourable. The conditions in the stomach were not favourable for the absorption of heavy metals. Dr. LEGGE spoke from the clinical point of view. He had always held the opinion that lead was absorbed from the stomach, but the experimental evidence adduced by the authors and by the last speaker must be taken into account. He regarded the question of the situation of absorption as of academic importance only, since the preventive measures must be the same in both cases. Sir THOMAS OLIVER supported the authors and considered the finding of lead sulphide in the lung as conclusive proof that the inhalation of dust into the respiratory channels had taken place. He spoke of the resistance against the toxic effect of lead. That the loss of weight in lead poisoning was not due to starvation was shown by the fact that, whereas an animal only died of starvation when it had lost two-thirds of its body weight, the animals in the authors' experiments only lost one-third of their weight. The authors replied.

Entertainments.

On Tuesday evening, June 1st, in spite of heavy rain, there was a large attendance at a reception by Sir William Ramsay, the President, and Sir Henry Roscoe at the Natural History Museum, South Kensington.

Excursion to Windsor Castle.

A message from His Majesty to the effect that the congressists were at liberty to visit the Castle having been received, a large number of members and their ladies set out for Paddington Station early in the afternoon of June 2nd. The visitors were delighted with all that was to be seen, both within the grey walls and without among the verdant surroundings of the Castle. An exceptionally fine view was obtained of the surrounding country from the Tower, where the foreign visitors massed in imposing numbers. Special trains conveyed the company to and from Windsor on the Great Western Railway.

The members had opportunity of inspecting a number of works, etc., which offered chemical interest. Among these may be cited the London works of Liebig's Extract of Meat Company, the Power Station of the Underground Electric Railways of London, the National Physical Laboratory at Teddington, various biscuit factories, breweries at Burton and elsewhere, engineering works, and other chemical works.

Closing Meetings and Resolutions.

Sir WILLIAM RAMSAY presided at the closing meeting on Wednesday morning, June 2nd. He announced that over 3,000 members and 650 accompanying ladies had taken part in the proceedings. From the official returns it appears, however, that less than 1,000 members had attended the meetings of the sections.

The reports of the sections were then read. The only resolutions affecting the medical profession were the following:—The section for physiological chemistry and pharmacology presented the following resolution, which was agreed to:

> That the section in future congresses be a separate and independent section entitled "Biochemistry, including Pharmacology."

The following resolution of the section of hygiene was also carried:

> That the congress requests the various Governments to nominate a commission to make researches in collaboration with manufacturers in materials used in the ceramic arts, to encourage the use of substances not containing lead; to restrain the use of lead materials and to conduct further researches with regard to protective materials for the hygienic use of those engaged in the ceramic industries.

Two further resolutions, proposed in conjunction with the section of law, political economy, and legislation affecting chemical industry, were deferred, together with the rest of the resolutions emanating from the last-named section, for consideration by the next congress, as no one was present to argue in favour of their adoption.

Dr. TAFFE wished the congress to pass a resolution prohibiting the use of milk-skimming machines in connexion with dairies, but his motion was not seconded.

Various commissions were reappointed, and certain monetary grants were voted.

Next Meeting.

An invitation to the congress to hold the next meeting in the United States of America was given by the Hon. Whitelaw Reid, the American Ambassador, and supported by Drs. Wiley, Professor Meldola, and Professor Baskerville. After various other items of business had been disposed of, a number of delegates from various countries spoke.

THE

COMPOSITION OF SOME PROPRIETARY FOOD PREPARATIONS.

TONIC WINES.

VIBRONA.

MESSRS. FLETCHER, FLETCHER AND CO., LIMITED, the proprietors of the tonic wine called "Vibrona," have written to us with regard to the analysis of this preparation which we published in the JOURNAL for May 29th, as they take the view that the statements then made may produce an impression unfavourable to their wine. Messrs. Fletcher, Fletcher and Co. wish to point out that the alkaloids in the wine are present in the form of hydrobromides; that the natural quinates, cinchotannates, and other constituents of the bark are retained unaltered by a special process of manufacture; and that it is on account of the particular combination in which the alkaloids exist in the wine that persons can take this wine who cannot tolerate other forms of quinine. They also assert that the figure which we gave for the amount of alkaloids — namely, 0.02 per cent. — should be 0.0285, the latter figure corresponding to the constituents of 5 grains of cinchona bark in 2 fl. oz. of the wine; they have submitted certificates which show that during the fourteen years of its manufacture the strength of Vibrona has been checked by a chemist who is one of the leading authorities on cinchona, who has periodically obtained bottles of the wine through ordinary trade channels, and analysed them, and has reported that he has found the wine to be uniformly of the strength stated. We gladly allow Messrs. Fletcher, Fletcher and Co. to bring forward these points; but it may be pointed out that eleven other wines containing alkaloids were reported on in the same article, and in no case was any statement made as to the form in which the alkaloid was combined, or to the presence or absence of other constituents of the drugs concerned; the analyses only purported to give the proportions of the principal ingredients.

MEDICAL AND SURGICAL APPLIANCES.

Surgical Lamps.

SUPPLEMENTARY to their catalogue of electro-therapeutic apparatus issued last year, the Sanitas Electrical Company, Limited (61, New Cavendish Street, W.), have published a sectional list devoted to the latest developments in surgical lamps. The instruments are chiefly if not entirely of German design, and some of them combine a variety of purposes in the one apparatus. To this class belong the universal electroscopes of Casper and Görl, which with slight adaptations can be used for illuminating seven or eight different body passages. Many instruments having special uses in ophthalmoscopic, pharyngeal, and other examinations figure in the catalogue, and mention should be made of the broncho-oesophagoscope of Dr. Brünings, to which considerable attention has lately been directed. The extraordinary progress made in precision instruments, however, is perhaps best seen in the cystoscope, and the Sanitas Company claim that their irrigation cystoscopes with divided-wall catheter excel other varieties because the double tube permits a continuous flow of liquid into and out of the bladder. In addition to its distinctively trade features there is some general information in the little catalogue on the use of electrical incandescent lamps of different tension in diagnostic investigation.

DIETETIC PREPARATIONS.

Brusson Jeune Diabetic Bread.

WE have received several samples of bread made by the firm of Brusson Jeune, of Villemur, France, which has an agency in London. According to the printed leaflet sent with the bread, it is claimed that it is "of all gluten bread that which, although relatively poor in starch, is the most appetizing, the most nourishing, the lightest on the stomach, and at the same time rapidly diminishes the diabetic sugar." In the typewritten letter accompanying it we are told that the "combination of carbohydrates and proteid present in our gluten bread constitutes a diet from which diabetic patients derive great benefit, this being due to the fact (1) that the flour and the gluten are intimately combined by the special processes employed; (2) the condition of the starch as the result of the excessive heating to which the bread is subjected during its manufacture; (3) the low percentage of fat; (4) the low percentage of moisture." A further statement that some of the rolls are practically pure gluten is corrected in a subsequent letter, which admits that they contain about 35 per cent. of starch, while others, called "Mignonettes," contain somewhat more; and it is further admitted that the Brusson Jeune's "Diabetic Bread" contains from 48 to 56 per cent. of starch, but, the letter goes on to say, the firm does not rest its claim upon the chemical analysis of the bread, but upon "the results revealed in the urine," and, "while fully understanding the importance of chemical and theoretical analyses of foods intended for diabetic patients, they think it will be agreed that it is upon the results of the urinary analysis that the value of a particular food must stand or fall." We have submitted one of the rolls of diabetic bread for analysis, with the following results:

	Brusson Jeune Bread.	Standard White Bread.
	Per Cent.	Per Cent.
Moisture (212° F.)	9.10	39
Mineral matter	1.00	1
Albuminoids	31.75	6.5
Fat	5.00	1
Woody fibre	2.50	—
Carbohydrates	50.65	51.5
	100.00	

Matters soluble in water 9.15 per cent.

These rolls are palatable, but as will be seen the amount of starch scarcely differs from that of ordinary bread; on the other hand, the gluten and fat are largely increased. We cannot admit that a diabetic food can be judged by us in any other way than by analysis, as the estimation of its effect on patients is too complicated for it to be possible to eliminate fallacies except by its prolonged use over a series of cases, and we know of no physiological reasons for supposing that a bread which contains 50 per cent. starch, readily converted by the saliva, and then reducing Fehling's solution freely, can be of any special utility in the treatment of diabetes.

Sweet Whey Powder.

The dry preparations of milk which are obtainable are becoming very numerous, and they are, as a rule, very serviceable and satisfactory. One of the most recent to come under our notice is the sweet whey powder made by Casein Limited, for the preparation of whey for infant or infant feeding. It is a fine powder, slightly alkaline in reaction, readily soluble in water to a cloudy solution which is free from curd, and in which boiling increases the turbidity. Analysis showed the presence of 12.6 per cent. of protein, 8.04 per cent. of mineral matter (chiefly phosphate), and milk sugar with only a trace of fat. It has an agreeable taste, quite free from sourness. Solution of the powder appears satisfactorily to represent freshly-made whey, and the fact that it can be prepared in two or three minutes instead of several hours may make it useful under some circumstances.

MOTOR CARS FOR MEDICAL MEN.

COST OF RUNNING.

DR. J. BERNARD WALL (Coleshill, Birmingham) writes: I have been driving Siddeley cars for nearly two years, and my experience is entirely contrary to Dr. Furlong's (BRITISH MEDICAL JOURNAL, June 5th, 1909, p. 1365). I do a widely scattered country practice, and cover nearly 10,000 miles a year. During these two years I have never experienced five minutes' delay, and have never driven a horse. When I require any little spare I write direct to the works, and always get it by return of post. I began with a 10-12 h.p., out of which I got an average of 25 miles to the gallon, but at the commencement of last November I exchanged it for a 14-h.p. landaulette, which, up to to-day, I have driven 5,780 miles, and my repairs and renewals have cost me less than £1. The tyres are the same which came from the works, and look like doing a good many miles yet. It is quite obvious to anyone with any experience of motors that if Dr. Furlong has spent £15 0s. 7d. on tyres, tubes, and repairs, and travelled less than 3,000 miles, there is something radically wrong, and I should think it would pay him well to engage a competent chauffeur at a few shillings a week more money.

B. G. H. writes: Possibly the result of my seven years' experience with motor cars may interest others as well as "T. D. N." I live in probably the most hilly suburb of London, and practise as a general medical practitioner. For the nine years 1893-1902 I worked with two horses, two carriages, and a bicycle, and my average annual expenses for these, including buying and selling and upkeep, came to £249 all told.

Since May, 1902, I have used only motor cars in my practice. I divide my medical motoring into two periods, the first, or expensive period, lasting 2¾ years; the second, or moderate period, 4¾ years.

During the first period, beginning with the purchase of a new 10-h.p. American car, and including also a second-hand 6-h.p. De Dion, I did not have very good luck. The American car was splendid and a wonderful hill-climber for the first six months, but then it began to go wrong, and the repair and replacement bill became very excessive. The De Dion worked well, but it had no hood.

I paid for these two cars £340 17s. 4d., and sold them for £67 10s., thus losing on them £273 7s. 4d., or an annual average depreciation in the 2¾ years of £119 12s. 11d. During this same period my annual average expenses for upkeep, petrol, oil, repairs, man's wages and clothes were £261 16s. 8d., making an annual total of £381 9s. 7d. These cars were sold towards the end of 1904.

In September, 1904, I bought a second 4½-h.p. De Dion, and used that exclusively for 1¾ years; and in January, 1906, I bought a secondhand 7-h.p. four-seated Panhard, and I have used these two cars ever since. I use only one car at a time, and of the two the Panhard is used nine-tenths of that time. I paid £310 for these two cars, and deducting what I consider to be their present selling value, though they are decidedly worth more to me, I find that during the second period of 4¾ years the average depreciation has been £49 12s. 3d.

My average annual expenses for upkeep, wages, repainting, etc., of the cars for this same period have been £205 11s. 4d., and with depreciation, £49 12s. 3d., £255 3s. 7d., a total average expenditure which compares very closely with that for my horses and carriages already mentioned.

My average annual earning capacity, as judged by "bookings," has hardly altered, but I am enabled to finish work much earlier, and can work with much greater comfort to myself and patients, as there is no horseflesh to consider. Having a vehicle always ready for evening and night work alone makes motoring worth while, and I should not at all care to go back to horses. I can, and do, usually drive myself, and understand the mechanism of my cars, but I keep a man, who cleans the car, does all ordinary adjusting and repairs, comes out with me, and drives when necessary. I am not particularly careful, and certainly not "parsimonious"; but am not needlessly extravagant, nor do I allow my man to be. The average annual mileage has been between 6,000 and 7,000, or about 18 miles a day. I consider "T. D. N.'s" estimate of 12,000 miles as almost impossible for a medical man with *many* patients to see.

I have taken a car on four of my annual holidays, but I do not recommend this if expense is an object. The figures given, however, include these holidays.

I insure for everything.

As to tyres, I use one studded tyre during the winter on the Panhard, and have tyres retreaded when possible. I have found Michelin and Avon tyres quite good.

I know probably over fifty medical men who use motors; their favourite cars are the following, placed in order roughly, according to numbers used, the first two mentioned being much the most numerous:

De Dions of 8-6, 10, 15 h.p.	Humbers of 12, 15 h.p.
Panhards of 7-10, 8, 15 h.p.	Argylls of 12 h.p.
Renaults of 10, 14, 16 h.p.	Sunbeams of 12, 14 h.p.
Darracqs of 8, 16 h.p.	Swifts of 10 h.p.
Rovers of 8 h.p.	Italas of 16 h.p.
Siddeleys of 10, 15 h.p.	Napiers of 24 h.p.

and a few others.

I summarize as follows:

Annual Average.

	Expenditure.	Depreciation.	Total.
Nine years' horses and carriages ...	—	—	249 0 0
Two motors:			
First period, 2¾ years ...	... 261 16 8	119 12 11	381 9 7
Second period, 4¾ years ...	... 205 11 4	49 12 3	255 3 7

The annual expenditure for the last 4¾ years has been made up as follows, on an average:

	£ s. d.
Petrol and oil	23 16 0
Tyres	33 3 0
Man's wages, clothes, etc.	70 0 0
Insurance	15 11 0
Replacements, repairs, and sundries... ...	63 1 4
	205 11 4

Average annual mileage, 6,000 to 7,000 miles.

My final advice is: Get a car of a standard make, and to begin with a good secondhand one. Do not use too large a car. Have two cars, so as to avoid delays while any repairs are done to tyres or mechanism of either car. Carry a Stepney wheel. Learn to understand your cars yourself.

LITERARY NOTES.

MR. MURRAY will shortly publish a work by Dr. David Forsyth, entitled, *Children in Health and Disease*. After treating of the physiology and psychology of the normal child, the book deals with the health of children in elementary and public schools, and with the principles on which the training and moral education of boys and girls should be founded. The State and municipal problems of infant mortality and of the idiot and feeble-minded population are discussed in detail. The concluding chapters are devoted to the various aspects of disease as affecting children.

Messrs. Rebman, Limited, will publish on June 23rd *The Maniac: a Realistic Study of Madness from the Maniac's Point of View*. The book is said to be a faithful account of a genuine attack of acute mania; and the publishers, in a note to the book, give it as their opinion, after careful investigation, that the book is a genuine record of an actual case of madness. The same publishers also announce for issue on the same date a new novel by the author of *Morag, the Seal*, entitled, *Old as the World: a Romance of the Western Islands*, by J. W. Brodie Innes.

It is related, on the authority of Van de Weyer, that at a diplomatic conference Talleyrand pointed to a sentence, and remarked, "I suppose this means so and so." To which the reply was, "Cela va sans dire." Talleyrand quietly answered, "Oui, certainement, mais cela va mieux en le disant." We commend this saying to the attention of those who—say in relating a case, drawing up a report, or writing a letter—omit something which is too readily assumed to be known to the reader. A thing may to the writer's mind "go without saying," but it is seldom that it will not go better by being said.

The mention of Talleyrand reminds us of his niece, the Duchess de Dino, who acted as hostess for him when he was ambassador in this country. In her memoirs, entitled, *Chronique de 1831–1862*, describing Lord Holland, she says he had "une bienfaisance perturbatrice." How well we all know this disturbing benevolence. Doctors suffer from it more than any other class of the community, for charitable persons of all sorts think they have a right to make unlimited calls on their gratuitous services. At the present time the London County Council and many other public bodies are displaying a "bienfaisance perturbatrice" which, unless it is checked by the action of the British Medical Association, is likely to make the struggle for life more arduous to many members of the medical profession.

On June 1st M. Capitan presented to the Paris Academy of Medicine four Peruvian vases belonging to a period before the Incas. On one was represented the head of an Indian who had lost an eye; on another was an admirably modelled figure with both orbits empty. M. Capitan thinks that the figures represented cases of non-leprotic panophthalmia. A third vase showed a person the end of whose nose was cut obliquely; the lower limbs were wasted. On a fourth was a recumbent figure whose nose had also been cut obliquely, while there was a considerable loss of substance on the upper lip. On the right side of the neck was a large mass; the lower limbs ended in stumps. Various explanations of these lesions have been given, some seeing in them the effects of syphilis or tuberculous lupus. Virchow believed them to be due to leprosy. Others think they are the results of amputation of the nose and upper limb done to stop the advance of lesions of some kind. M. Capitan makes no mention of the possibility that they may show the handiwork of the executioner. The mass on the neck of one of the figures, however, would suggest disease.

On May 8th there was issued to the public the fourth volume of the *Belfast Health Journal*, a publication devoted to the promotion of the health of the public. It is now many years since Dr. O'Neill issued his first volume of the *Health Journal*, and it is just a quarter of a century since he began his health crusade in Belfast. In 1884 the population of the city was 215,622; it is now 380,344, while the death-rate has fallen by 3 per 1,000; 70,000 copies of the *Health Journal* have been circulated to teach the public the cardinal doctrine of life—that to ensure health they must breathe fresh pure air, use pure water, eat wholesome food, keep the body clean,

wear comfortable clothing, live in healthy homes, and avoid mental worry. The journal deals with the important subject of primary education and the proper conditions for such work. It points out that, while there are numbers of schools well suited to the needs of the position, there are others which are a positive discredit to public decency and a menace to the health and the lives of the children attending them. Photographs of some of the new ideal schools, such as the "O'Neill Memorial" School, Crossnacreevy, are shown in contrast with others of the old objectionable type. The success of the technical movement in Belfast under zealous municipal control is pointed out, and the proposal is put forward to establish primary education throughout the country similarly under the control of borough or county councils. Another question dealt with is the provision of decent houses for workers, especially in rural districts, where hundreds of labourers have to live in wretched hovels, ruinous to the health of themselves and families. Rural councils are urged to take immediate steps to avail themselves of the Government grant to provide housing conditions that will check the emigration of the labourers, and so secure that workers can be had to carry on farming operations in the country. The issue contains 130 pages, with fine reproductions of many of the national beauty spots of Ireland.

G. J. Guthrie's *Commentaries on the Surgery of the War in Portugal, Spain, France, and the Netherlands, from the Battle of Rolica in 1808 to that of Waterloo in 1815*, were published in 1853, but, as he tells us in his preface, an introductory lecture appeared in the *Lancet* nearly two years before. In that lecture there are some interesting foreshadowings of abdominal surgery, the developments of which are among the most remarkable achievements of the healing art. He tells the following story:

A respectably dressed woman of a middle age, by which something between forty and fifty may be understood, came into my room one morning, saying she "was sent to show me her *domen*." Seeing that I hesitated and did not appear to understand, she added, "the mark of the cut, Sir, made by Mr. ——, in my stomach, fourteen inches, Sir, from the end of the breast bone, to the bone below." This was conclusive, and we proceeded forthwith to examine, and there it was sure enough. "Then, Ma'am," said I, "you were regularly opened." "Oh, yes, Sir," she replied, "a lump twice as big as your head was taken out, and the doctors were very kind. One put back my bowels, another arranged my liver and pushed my stomach into its place, but there was some difficulty about what they called my colon." "And the lump," I said, "did that bleed?" "Oh, no, Sir, very little; it was tied before it was cut away from my womb, which was shoved back to its place." She concluded by saying, by way of climax, and looking a little demure, "I have had a child, Sir, since that." I could only express my thanks and assure her that she was a lucky woman, but that ladies often did take a great deal of killing—more, I believed, than men. Since that period it is calculated that 150 or 160 operations of a nearly similar nature have been done; one I saw myself precisely similar, the woman dying of bleeding after several days. Obstetricians or accoucheurs, the class of gentlemen who have generally done these things, have recommended, some a cut of ten, some of eight, some of six, some of four inches, instead of fourteen; but whether the cut be longer or shorter, one-third of the sufferers only have escaped with life, and the operation is not considered quite as successful as might be wished, more particularly as the complaint is usually one of great inconvenience and distress, but is not necessarily mortal, sometimes for many years. The great fact, however, is established, and that by gentlemen who are presumed to be the gentlest of doctors, that the whole length of the abdomen of a lady may be laid open by a clean cut, her ovarium, and occasionally both, taken out, and that the patient may recover.

Guthrie goes on to say that years before he had said that a mere incision into the belly was not necessarily mortal, except under bad treatment, and he adds that the proof has now been fully given. He proceeds to draw an inference:

When a man has recovered from a wound which has been supposed to have left a hole in his diaphragm, he must not clean a horse, nor tie his own shoes, nor even bend his back, beyond making a bow—I do not forbid that, if he cannot help it. He must eat sparingly at a time, drink less, and sleep as much as possible in a somewhat raised position. When, however, all possible precautions have been taken in vain, and he is distinctly suffering from the symptoms of an internal strangulated hernia of the part supposed to have been injured, and is likely to die unless relieved, what is to be done? Why, you must make an incision through the wall of his abdomen (as the accoucheurs do in this part of the ladies), just over the suspected spot; introduce your hand through this cut, feel with your forefinger for the hole in the diaphragm, and withdraw the strangulated part, even if it should be necessary to enlarge the hole in the diaphragm by a blunt-pointed bistoury. If it should have formed attachments and cannot be withdrawn, the strangulation may be relieved and the patient survive.

Further on he says:

Wounds of the abdomen are, perhaps, more dangerous than those of the chest, and several points in connexion with them have received the earnest attention of several surgeons of great repute. The general and efficient knowledge of the subject differs, nevertheless, but little from that I have noticed with respect to wounds of the thorax. I have, however, lately seen two or three cases recorded, in which all known principles were successfully resorted to; and I augur from them a most important change in the attention paid, and about to be paid to the treatment of these injuries.

I have recommended you to open the belly of a man to enable you to reach and reduce a strictured protrusion of some internal part of the chest, through a hole in the diaphragm. A friend of mine being in Paris, and understanding that M. Amussat had laid open the back of a lady, in order to enable him to make an incision into her great bowel, above a part strictured and impassable from disease, and has thus saved her life, waited upon him accordingly. Shown into his ante-chamber, he fell into conversation with a very agreeable good-looking lady, profuse in her praises of M. Amussat, of which she seemed to speak so feelingly, as to induce my friend to say that the especial object of his visit was to see a lady on whom he had performed a remarkable operation, which he named. His fair auditor was delighted, declared herself to be the person who had been so operated upon, and, as the speedy arrival of the doctor was uncertain, she, with great good nature, raised her inexpressibles, pulled out the plug in her back, and convinced my friend of the successful result of the operation on her colon. This operation has since been done as successfully in England, and I have very lately seen a case in which the abdomen was opened above the left groin for a similar purpose, the patient, a good-looking middle-aged man, congratulating his surgeon and himself on its successful result.

It has frequently been said that the most heroic qualities of mankind are only developed in times of universal trouble, and a very cursory study of the French Revolution goes far to confirm the truth of this statement. One of the most remarkable features of the period is the sublime heroism displayed by all sorts and conditions of quiet, peace-loving citizens—scholars, priests, and women—heroism of which no one would have thought them capable, and which seems to have been developed suddenly under the stress of circumstances. Several doctors figure amongst these obscure heroes. One of the most courageous was a famous surgeon—Desault—the head of the Hôtel-Dieu. After the sack of the Tuileries on August 10th he managed to rescue several of the wounded, whom he hid in the beds of his patients in the hospital. The mob invaded the Hôtel-Dieu in search of their victims, but Dessault, with the help of nurses and patients, skilfully evaded all questions and saved them all from certain death. Another doctor who played a part in the drama of the Revolution was Lemonnier, equally celebrated as physician or as botanist. Mrs. Maxwell-Scott in her recent book, *Madame Elisabeth de France*, makes honourable mention of him. He had been one of the tutors of Mesdames Clotilde and Elisabeth, sisters of Louis XVI, to whom he taught botany. He gained the affections of the royal children to such an extent that later, when Madame Elisabeth had her own establishment at Montreuil, and Lemonnier was living close by, a close friendship grew up between the two. The Princess made her old master her almoner in the village, and delighted in sharing his studies, and even his experiments in the laboratory. Lemonnier's devotion to his pupil nearly cost him his head. At the outbreak of the Revolution he held the post of physician to the King, and occupied a suite of rooms in the Tuileries. When the mob broke into the palace they found Lemonnier quietly seated in his library. The infuriated people asked him what he was doing there. "I am at my post," he answered. "I am the King's physician." "And are you not afraid?" they cried. "Of what?" was the calm reply. The old man's courage so astounded his questioners that they forbore to touch him, and merely asked where he wished to go. He answered that he desired to be conducted to the Luxembourg, and a line of pikemen escorted him thither, no one raising a hand against him. "Let him pass," said his escort; "he is the King's physician, but he is not afraid." Lemonnier saw his former patrons again before the end of the tragedy. During his imprisonment in the Temple the King was troubled with an abscess in the mouth, which made him very unwell. He was not allowed to see his

own dentist, but as he grew steadily worse his gaolers became alarmed and sent for Lemonnier. The doctor was given leave to visit Louis twice a day for a week, and one cannot doubt that these visits were a consolation to the unhappy King and his family. Lemonnier had a great respect and affection for Louis as well as for his sister, and was profoundly distressed by their misfortunes. These two examples, taken at random from a score of others, might be multiplied indefinitely, and show us that, side by side with doctors such as M. Souberbielle Belhommé, there were members of the profession who remembered their duty and dared to brave the guillotine in performing it.

Medical News.

DR. R. DEANE SWEETING has been appointed to represent the University of Oxford at the forthcoming Sanitary Congress at Leeds.

DR. WM. STIRLING, Professor of Physiology, University of Manchester, has been elected a foreign corresponding member of the Reale Accademia di Medicina of Turin.

DR. ELLIOT SMITH'S Arris and Gale Lectures at the Royal College of Surgeons of England, which were to have been delivered on June 25th, 28th, and 30th, have been postponed. They will be delivered during the winter months.

SIR WILLIAM BENNETT will take the chair at a conference on the medical inspection and treatment of school children arranged by the Incorporated Institute of Hygiene, to be held on Monday next at 4.30 at 34, Devonshire Street, W.

THE Savings Bank of Milan has voted a grant of £10,000 to the Italian Committee for the study of cancer, on the understanding that the money shall be payable when the proposed National Institute of Cancer Research is in working order.

AT the recent sitting of the Board of Examiners of the Royal College of Veterinary Surgeons, held in Edinburgh, nine students of the Royal (Dick) Veterinary College passed the final examination and were granted the diploma of M.R.C.V.S.

THE Royal Mail Steam Packet Company has told off for Norwegian and Morocco cruises this summer two of its finest vessels, one having a swimming bath in addition to ordinary accommodation. A booklet describing the tours, none of which are expensive either in time or money, can be obtained on application at any of the company's agencies.

THE Council of the Royal Institute of Public Health have awarded the Harben Gold Medal for eminent services to the public health, which they are empowered to do triennially, to his Excellency Professor E. von Behring, M.D., Marburg, Germany, and have appointed Brevet Lieutenant-Colonel W. B. Leishman, M.B., R.A.M.C., Professor of Pathology, Royal Army Medical College, the Harben Lecturer for the year 1910, and Professor Angello Celli, M.D., Rome, the Harben Lecturer for the year 1911.

THE Inter-University Congress, which met in Belfast last year, is to meet in Durham and Newcastle-upon-Tyne at the end of this month. A large gathering of the Students' Representative Council of the universities and medical colleges is expected. Already invitations have been issued by the University of Durham College of Medicine and the Armstrong College to social functions. There will be, in addition to the more serious business of the meetings, the usual sports.

A CRICKET match for the members of the British Medical Association visiting Belfast will be held on Thursday, July 29th, on the grounds of the North of Ireland Cricket Club, which are only ten minutes' walk from Queen's College. Dr. J. W. Taylor has kindly arranged to give luncheon to the teams, and afternoon tea to them and the spectators as well. Cricketing members who are willing to take part in the match are asked to communicate as soon as possible with Dr. J. W. Taylor, Dunelin, Malone Road, Belfast.

COMMEMORATION Day at Livingstone College was celebrated in the grounds of the institution at Leyton on May 26th, the Master of Trinity College, Cambridge, presiding, and a large number of medical men being among the visitors. The speakers included Dr. C. F. Harford, the principal of the college, who said that in the last fifteen years public opinion as to the need of missionaries having some medical training had changed, and the Master of Trinity, who, touching on the same point, said that he had had missionaries among his own relatives, and felt that their lives might have been saved had they had the advantage of the knowledge afforded by a residence at Livingstone College. Professor Alexander Macalister said that when the institution first commenced its work he had had some doubt as to the wisdom of the training given; but now, as an old medical teacher, he had thorough confidence in it. A missionary ought to be in a position to render simple medical aid to natives when qualified medical assistance could not be obtained, and to know how to safeguard his own health. He hoped that before long training such as was provided at Livingstone College would everywhere be regarded as an absolute necessity for missionaries. The meeting was also addressed by the Central Asian explorer, Dr. M. A. Stein, who said that he had come specially to bear testimony to the value of the services rendered him during his recent travels in the Himalayas by an old student of Livingstone College. When making for home towards the end of his expedition his feet were so badly frostbitten that he felt it imperative to obtain assistance of some kind. He therefore caused himself to be carried on an improvised litter over a pass between 17,000 and 18,000 ft., and was met by an old student of Livingstone College, the Rev. Sebastian Schmitt, who took him to Len and gave him the attention he required. He had since consulted eminent surgeons both in India and in England, who said nothing could have been better than the conservative surgery carried out by Mr. Schmitt. His left foot had entirely recovered, and the utility of the right foot was far greater than he had any right to expect.

THE annual meeting of the Society for Training Teachers of the Deaf, and for the diffusion of the "German" or pure oral system, was, by the kind invitation of Mrs. Symes-Thompson, held at 33, Cavendish Square, on May 26th. Sir Melvill Beachcroft, Chairman of the London County Council, presided, and in moving the adoption of the report, pointed out that, according to the latest available census returns, there were at least 20,000 deaf and dumb persons in the United Kingdom. The London County Council provided school accommodation for 625 deaf children, of whom about 400 were in day classes and 225 in residential institutions. For these about 65 specially trained instructors were required. The demand for trained teachers was much in excess of the supply, one reason being that the cost of training exceeded that of the training of the ordinary elementary teacher. It seemed remarkable that while the State imposed on the local educational authorities the duty of providing for the teaching of deaf children it gave no financial aid—or at best, inadequate aid—to the training of their special teachers. In these circumstances the work of such colleges as that at Ealing and its sister institution in Fitzroy Square called for support in sympathy and funds from the benevolent to help in supplying this great public need. Dr. Shuttleworth seconded the adoption of the report, supporting the chairman's statements as to the inadequacy of State assistance in the provision of teachers for deaf children, though the instruction of the latter was compulsory by law, and pointing out the danger to the community of the uninstructed deaf drifting into the asocial and criminal classes. He referred to a recent case in which a "stone-deaf" prisoner, without the benefit of education, had by reason of his inability to plead been, without trial, for his offence committed to prison as "non-sane." Though the prison surgeon did not consider him insane, he still remained in custody awaiting "His Majesty's pleasure," three learned judges having decided that the man's inability to plead constituted "insanity" in point of law. From such a predicament special education would no doubt have saved him. Such a case seemed a strong argument in favour of the beneficent work of this society. The resolution having been carried, Sir M. M. Bownaggree, K.C.I.E., moved the reappointment of the officers, and referred to the fact that no less than 148 teachers had been successfully trained at the Ealing College, which was admirably and economically managed, satisfactorily reported on by the Board of Education Inspector, and capable of even more extended utility if only better supported by private benefactions or public funds. Mr. A. E. Miles is Treasurer, the Rev. A. J. Thompson Honorary Secretary, and Miss E. Hewett, Principal of the Training School at 47, Eaton Rise, Ealing, which receives deaf children for education, besides training teachers.

British Medical Journal.

SATURDAY, JUNE 19TH, 1909.

PUBLIC HEALTH AND SOCIAL CONDITIONS.

THE conditions which at the present day help to build up the fabric of society in highly civilized States are of such a complex character that the social reformer is often in despair when he attempts to modify or to amend the hard lot of his less fortunate fellow beings. If he decides to make himself master of one aspect of the problem he finds that it is so closely interwoven with other aspects that he hesitates to draw conclusions which may ultimately prove to be fallacious. If, for example, he makes himself thoroughly familiar with the administration of the Poor Law, he discovers that he must obtain also a knowledge of the main facts concerning public health; he must, for instance, become acquainted with death-rates and with sickness-rates in different localities, and he must gauge their effects upon pauperism. Then, again, he cannot avoid a study of industrial conditions and the varying conditions of the labour market. Details on all these matters are to be obtained by those who know where to find them, but those who possess the knowledge are comparatively few, so that it was a happy inspiration which led the President of the Local Government Board to commission some of his staff to compile from material which they had to their hands a series of statistical memoranda relating to certain aspects of existing social conditions. The resulting volume[1] is intended "to "illustrate in a convenient and readily intelligible "form various matters of importance in the study of "those conditions such as the growth of population, "mortality, and public health administration, the "changes in the occupations of the people, the recur-"ring periods of industrial prosperity and depression, "pauperism and the action of the Poor Law, local "taxation and local debt, and the development of "education and thrift." The sections relating to public health were produced under the supervision of Dr. Newsholme, and those relating to the Poor Law under that of Mr. J. S. Davy, while the volume generally was compiled by Mr. C. F. Adair Hore, one of the staff of the Permanent Secretary of the Local Government Board for England and Wales.

The feature of the memorandum throughout is the simple and graphic representation of facts. This is achieved not alone by a liberal use of charts and maps, but by the simplification and explanation of tables, of which there is a very large number. For instance, the varying increase or decrease in the population in the past half-century in the several divisions of the United Kingdom is shown by stating that for every 100 persons living in 1851 there were in 1908 estimated to be 197 in England, 187 in Wales, 167 in Scotland, and only 67 in Ireland. The birth-rate in England and Wales was at its highest in 1876, and calculated as the ratio of the number of births in a particular year to the total population estimated to be living in that year—that is to say, in the manner in which it is usually calculated—there was a decrease equal to 20 per cent. between 1876 and 1905; but when the calculation is made, as it should be, as a proportion of the number of married women at child-bearing ages, between 15 and 45 years, the decrease in the birth-rate is found to be equal to 27 per cent. in the same thirty-year period. When the illegitimate birth-rate is calculated in the same manner—that is to say, as a proportion of the number of unmarried and widowed women at conceptive ages—there is seen to be a fall from 14.6 per 1,000 in 1876 to 7.8 per 1,000 in 1907.

The relationship between the death-rates, institutional treatment of disease, pauperism, prices and wages is very graphically shown in a chart. Assuming that all these factors stood at 100 in 1869, the death-rate from all causes in 1907 was equivalent to 72, and from phthisis to 47; the amount of pauperism would be represented by 55, while prices have fallen to 80. On the other hand, wages have risen to 140, and the amount of institutional treatment to 225. The satisfaction which is aroused by the gratifying elements in these records receives a serious check upon turning to the details of infantile mortality, for during the whole of the second half of the last century there was practically no diminution in the appalling rate of death among young children which obtained in the first half. The genuine efforts made in the past few years to reduce this mortality are now having some result, for in the present century there has been a fall in the infantile mortality rate of about 20 per cent.

A very interesting and concise account is given of the Public Health administration of England and Wales. The powers and duties of the central and the local authorities are recorded with a simplicity so engaging that those who read of them for the first time will wonder how it is that insanitary conditions are permitted to exist in face of the fact that such acknowledged powers of abolition exist. The Local Government Board, we are told, is empowered to receive complaints as to the default of local sanitary authorities in providing sewerage or (in certain cases) water supply, and in enforcing the provisions of the Public Health Act, which it is their duty to enforce, and it may, after local inquiry, compel them to discharge their duty in these matters. The medical officer of health and the inspector of nuisances, it is stated, occupy an important place in local sanitary administration. This is an admission of some importance, for it has not infrequently happened that these officials have not received the support from the central authority to which they considered they were entitled.

The account of the development of institutional care in England and Wales includes some very striking facts. In 1871 there were in the whole country 13,706 persons in hospitals, and this number had increased to 35,160 in 1906. In the former year 2.6 per cent. of the total deaths occurred in hospitals, but in 1906 this percentage was 6.6. In London the increase was not so great during the same period, for in 1871 there were 5,228 persons in the metropolitan hospitals, in which there occurred 6.5 per cent. of all deaths, while in 1906 there were in these institutions 10,611 persons, and the deaths in them constituted 14.3 per cent. of the total number registered in London.

In the section of the memorandum which deals with pauperism and the Poor Law we are told that in the

[1] *Statistics and Memoranda and Charts prepared in the Local Government Board relating to Public Health and Social Conditions.* London: Wyman and Sons; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. 1909. (5s.)

last fifty years every class of pauper in proportion to population has declined, the decrease being about 74 per cent. in the case of children and able-bodied adults and 44 per cent. in the case of the aged and infirm. In the year 1849 the number of adult able-bodied paupers was 13.5 per cent. of the total population, but in 1908 this percentage was 3.5. The cost of poor relief presents several features of interest. Between 1850 and 1907 the cost per head of the population has risen from 5s. 11d. to 7s. 9d., but the cost per £ of rateable value has fallen from 1s. 6¾d. in the former year to 1s. 4d. in the latter. The increased expenditure is, no doubt, in part accounted for by the very large number of lunatics who are now cared for in asylums compared with those who were so treated fifty years ago. The additional care bestowed upon the sick poor and the increase in the number and character of institutions accounts for still more of the increase.

It is impossible to dip more deeply into this extremely interesting and instructive document, which is certainly one of the most useful Blue Books ever issued from a Government department. Although we have been able only to skim the very topmost layer of the cream, we have endeavoured to show that it is a volume which contains within its pages data and material which will materially assist in the solution of many urgent social problems, and, while pointing the right direction to be taken, will also prevent the selection of dangerous or altogether inappropriate paths.

TUBERCULOSIS IN INDIA.

The great attention paid during recent years to diseases peculiar to, or specially prevalent in, the tropics has been accompanied by a comparative neglect of the study of the havoc wrought by certain common world-wide diseases in hot countries. One of the most important of these is tubercle, to which, in its relation to India, attention has recently been directed prominently by the publication in the *Indian Medical Gazette* of series of papers read before the Medical Section of the Asiatic Society of Bengal. The interest aroused in the subject is shown in the fact that the reading of these papers and their discussion occupied three monthly meetings. The outstanding feature of the debate was the conclusive and unanimous evidence adduced regarding the great frequency of tuberculosis, especially phthisis, in Bengal, and its high mortality. The statement made by the late Dr. A. Crombie at the International Congress on Tuberculosis in Berlin in 1899, to the effect that the disease was quite rarely met with in natives of India, seems to have been completely disproved. Thus Lieutenant-Colonel G. F. A. Harris, I.M.S., in his introductory address, stated that 10 per cent. of the admissions to the General Hospital, Calcutta, in 1882–4 were for pulmonary phthisis, while after ten years' recent experience at the Medical College Hospital, mainly with Indian patients, he had come to the conclusion that the disease is one of the commonest and most fatal in that city. This view is fully confirmed by an analysis of *post-mortem* records of that hospital for twenty-six years contributed by Major L. Rogers, I.M.S.; no less than 17 per cent. of the deaths were directly due to tuberculous disease, while 8 per cent. more showed latent or healed tubercle in the lungs. Thus no less than 25 per cent. of the bodies revealed evidence of this disease, and the percentage would doubtless have been higher still had the condition of the lymphatic glands been regularly recorded. Major J. Mulvany found that as many as one-fifth of the deaths in Bengal gaols were from phthisis, and that nearly all occurred among prisoners admitted with the disease. Another interesting point brought out is the comparative rarity of surgical forms of tuberculosis, which were observed in only 0.45 per cent. of the total *post-mortem* examinations, and in only 2.2 per cent. of the total admissions to the surgical wards at the Medical College Hospital. Major L. Rogers attributed this to the great rarity of bovine tuberculosis in India as compared with Europe, a view which lends important support to the conclusions of the Tuberculosis Commission regarding the frequency of infection through cow's milk in England. The evidence of the *post-mortem* records and the vital statistics of Calcutta also agreed in showing that the highest tuberculosis-rate was found among females, and especially among Mohammedan women, who are so closely confined in overcrowded houses and have less opportunity of getting out in the open air than any other class. The analysis of the *post-mortem* records also showed that tuberculous pericarditis and pneumothorax were more common and tuberculous meningitis less common than in temperate climates. All these data reveal a very great prevalence of tuberculous disease in India, while the fact that in an inquiry into the real causes of deaths returned under the elastic heading of "fever" in an unhealthy malarious district of Bengal, no less than 9 per cent. were found to be certainly due to phthisis alone, makes it clear that tuberculous diseases in this province produce a mortality second only to that due to pneumonia and to malaria and kala-azar combined. It is also now known to be exceedingly prevalent in the United Provinces and Central Provinces, as well as in Bombay and Madras; in short, over nearly the whole of India. It is probably less prevalent in the dry Punjab, although exact data appear to be wanting on that point.

Enough has been said to prove that tubercle is a far greater scourge in India than, for example, such dreaded diseases as cholera, small-pox, and dysentery. It would seem that this fact has not hitherto been fully realized, for otherwise some attempt would certainly have been made to introduce sanatorium treatment which is even more necessary in India than in Europe, on account of the rapidity with which the disease progresses in the hot weather and rainy seasons in the sultry plains of Hindostan. The selection of a site which will present favourable conditions for the treatment of phthisis at all periods of the year is a matter of some difficulty. The only places which have been suggested in Bengal are Darjeeling and the plateau of Chota Nagpur, but in the opinions of competent men who contributed to the debate the former is too wet and cold at certain seasons, and the latter too hot for several months. Those who have had many years' experience of sending tuberculous patients to different places in India seem to be agreed in considering Almorah, in the Kumaon Hills of the United Provinces, as the most suitable place for starting a sanatorium. It is at a medium elevation, and is protected from excess of rain by higher ridges to the south, and is very sunny for a hill station. When once the benefits of treatment in a well-managed sanatorium become realized in India, doubtless many wealthy Indians will come forward to endow similar institutions in different parts of India, and so in time something may be done for the

successful treatment of the disease in its early stages, and further infections will be lessened by removing the dangerous patients from the too often overcrowded houses of Indian cities. As a result of the discussion a resolution was unanimously adopted to the effect that the Medical Section of the Asiatic Society of Bengal was of the opinion that it is an extremely common cause of great suffering and mortality, both among the European and Indian communities, and therefore ventured to call the attention of the Government of India and the local Government, to the urgent necessity for providing a properly equipped sanatorium for the treatment of early phthisis, such as has now been provided with most satisfactory results in nearly all civilized countries.

RETARDATION OF METABOLISM.

PROFESSOR R. STAEHELIN, in a paper founded on observations made in the university clinic of Professor His in Berlin,[1] has sought to arouse fresh interest in what he believes to be the overlooked importance of retardation of metabolism in certain conditions, a theory which a few decades ago was much talked about, but has gone out of fashion because it was shown by careful research that metabolic processes are more constant than had been assumed.

Staehelin holds that there are reasons for its rehabilitation, at least to a certain extent, on the ground that certain substances hinder the destruction of others. Thus fat, when given with albumen, retards the appearance of nitrogen in the urine, and this effect is to be observed in certain diseases—diabetes for example. Again, according to Falta and Gigon, cheese retards the nitrogen excretion in diabetes, and Staehelin observed the same thing in obesity. The curve of the elimination of purins in gout can, he thinks, best be explained by accepting the theory that there is a retardation of the nuclein metabolism in this disease. A similar condition occurs in alcoholism, diabetes, and lead poisoning. Mohr has maintained that sugar is burnt off more slowly in diabetes, and if its consumption is diminished its destruction should be slowed, but this has not been proved. Combustion may be slow but complete, as in obesity, or it may be incomplete. Dogs from whom the thyroid has been removed show slow carbohydrate metabolism. Waldvogel believed he had proved that in obesity the transformation of beta-oxybutyric acid into acetone is retarded, but his results have not been confirmed. Raising the external temperature has the effect of diminishing the production of heat in warm-blooded animals, but beyond a certain point the external temperature remains without effect, indicating that there is a minimum which cannot be altered.

Any great retardation of consumption must produce marked effects, as is seen in the only universally admitted pathological condition in which it is known to occur, namely, where the function of the thyroid gland is depressed. Staehelin, Hagenbach, and Nager studied the case of a boy who had had a goitre excised twelve years previously, and who in consequence had remained stunted in growth, was thin, ate little, but was perfectly intelligent. The oxygen output was found to be only 70 per cent. of that of a healthy child of the same age; thyroid feeding raised it 25 per cent. and the case is sufficient to prove that a reduction of oxygen consumption may occur.

Cases have been observed in which men have been able to maintain their body weight on very low diet. Such a case was studied by Pettenkofer and Voit, who proved that there was diminished excretion of CO_2. In oesophageal occlusion from injury, Fr. Muller and Nobelthau found that the body adapted itself to a minimum of food, and Magnus-Levy, in a case of voluntary starvation, where the body weight was reduced to 36 kg. (72 lb.), observed that the oxygen consumption was very small, but when food was taken in proper quantities oxygen was again consumed in normal amount. R. O. Neumann, in observations on himself continued over months and years, found that his body weight remained the same on very varying quantities of food, and Chittenden's experiments show that when nitrogenous food is diminished the demand for it is also reduced. Falta, Rubner, and others have shown that this is true also of animals, but it is not known how far this capacity extends, certainly not to all animals or men, and it is probably less frequent among the latter. Some convalescents show diminished oxygen consumption, others do not. In diabetes most patients have a normal or even increased oxygen consumption, but some show a decided reduction, and can bear a reduced diet without loss of weight. Von Noorden believes that such patients are always ill nourished, but Staehelin doubts the invariable truth of this, and cites the case of a patient weighing 67 kg. (134 lb.) who maintained his body weight on a dietary containing only 30 calories per kilo.

Gout, diabetes, and obesity are the conditions in which slowing of metabolism is observed, and these are the diseases long ago styled "Maladies par ralentissement de la nutrition" by Bouchard. He was unable to bring forward sufficient evidence to establish this theory, but it appears that retardation of metabolism is not so uncommon as has been assumed, and it is of great theoretical interest that it should occur in certain diseases of metabolism and in connexion with the depressed functions of certain glands (thyroid and ovaries) which have internal secretions. There are, therefore, grounds for hoping that the experiments of Falta, Eppinger, and Rudinger on the influence of these organs on the rate of katabolism may throw light on the origin of these diseases.

The knowledge of the retardation of nuclein metabolism is of great practical importance in the treatment of gout, while the fact that many diabetics tolerate diminished food supply should overcome our fear of underfeeding these cases, and should allow us to venture in difficult cases to try the effects of reduction of nitrogenous food, even when the distinctly reduced diet possesses an insufficient caloric value.

[1] *Deu sch. med. Woch.*, 1909, No. 14, p. 77.

THE ANNUAL MEETING.

AT the end of the JOURNAL for this week (pp. 1521, 1522, 1523, and 1524) will be found a form for the use of members who propose to attend the Annual Meeting of the British Medical Association in Belfast next month. If the form is filled up and returned to the address shown, a voucher or vouchers will be issued from the central office, giving the right to the special terms which have been arranged with the railway companies. A return ticket will be issued at a single fare and a quarter, and this year negotiations with the railway

companies have resulted in a special concession, which is that the return tickets at the reduced rate will be available from Thursday, July 22nd, the day before the Annual Representative Meeting, until the end of August. This extension will allow members holding return tickets to make an extended tour in Ireland, and to visit some of the places described in the article published in the JOURNAL last week (p. 1422). On the back of the form is a list of hotels, and on the next succeeding page is a list of lodging-houses in Belfast, with a scale of charges; members are requested to communicate direct with the persons whose names are given in the list, or with the managers of the hotels mentioned. The early receipt of the form stating the intention to be present will greatly facilitate the work of the local committee, and, as has previously been pointed out, it is desirable to secure rooms at an early date. The agenda paper of the Annual Representative Meeting, so far as it could then be settled was published in the SUPPLEMENT for May 22nd, and the programme of the general meetings and of the Sections was last published in the SUPPLEMENT of last week, but we may recall the fact that the President-elect, Sir William Whitla, will be inducted on Tuesday afternoon, July 27th, and will deliver his address on the evening of that day in the Assembly Hall. The Sections will meet on Wednesday, Thursday, and Friday, July 28th, 29th, and 30th.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE London County Council, as was stated in the JOURNAL of June 12th, decided, in opposition to the majority report of the special subcommittee of experts appointed to consider the means of providing for the treatment of school children found defective, to attempt to utilize existing institutions—that is to say, hospitals and dispensaries. The education officer thereupon issued a circular to the London hospitals, asking whether they were willing to co-operate—in other words, whether they were prepared to place an additional burden on their medical staffs, and increase the already intolerable amount of hospital abuse. We published in the same issue a circular letter addressed by the Council of the Metropolitan Counties Branch to the members of the medical staffs calling attention to the significance and consequences of this action of the County Council. That some, at least, of the hospitals will agree with a light heart to an arrangement which will inflate their statistics of out-patient attendance is tolerably certain. Indeed, from a note published at p. 1504, it will be seen that the Great Ormond Street Hospital for Sick Children has expressed its willingness to provide treatment for twenty-five school children a week. Naturally the Education Committee recommended the acceptance of an offer which "would not involve the Council in "any expense." This will doubtless be satisfactory to everybody, except the doctors; and of course their willingness to bear the burden imposed on the County Council by the State is taken for granted. Their vicarious charity is apparently held by some members of the Council to be an act of reparation, as one ornament of that bright exemplar of municipal bodies said that it was the doctors who were responsible for the fact that the children require to be treated, and asked, with a fine assumption of indignation, if it was suggested that the Council should make amends for the misdoings of the profession! We suppose the next proposal will be that a special rate should be levied on the medical profession to defray the cost of the treatment.

AN INDEX OF CURATIVE SKILL.

MR. FRANCIS GALTON in his early days was a medical student, and in his *Memories of My Life* he has some interesting remarks on the practice of the healing art. He says: "The opinions held by the students "about the several physicians and surgeons were "curiously guided by a mixture of loyalty and "irreverence. There was no doubt of the fact that "M., one of the doctors, who never professed or had "a claim to scientific acquirements, got his patients "out of hospital more quickly than any of his "colleagues. His treatment was as simple as that "of Dr. Sangrado, though of quite another kind. "It consisted of a strong purgative followed by low "diet, and a subsequent feeding up as soon as the "fever had gone. The composition of his drench "never varied; a big bottle of it was made every "morning in the dispensary, in readiness to be served "out. It was so cheap that the overplus could be "thrown away and a fresh infusion made the next day." Mr. Galton goes on to express the opinion that it is desirable that some "index of curative skill" should be awarded to doctors, based on their respective hospital successes. He says he has often amused himself with imaginary schemes to this effect. If it could be compiled truthfully, he thinks it would be an excellent guide to those who wanted a doctor, but were doubtful whom to consult. A high index of curative skill would serve as a measure of merit, and the fee to the doctor might be regulated by its height. This may seem fanciful, and it is to be feared to attempt to weigh what is imponderable would lead to all sorts of fallacies in theory and to undesirable results in practice. It is, however, within the experience of every one who has watched the practice of physicians and surgeons at a hospital, or of general practitioners in town or country, that there is a difference between one man and another in curative skill, and that it is by no means always the most "scientific" who cure most. We have ourselves had occasion to observe that in surgery the results achieved by certain men were notably inferior to those of others not to be compared with them in point of knowledge or experience. It has been suggested that in the case of operators the hand, or rather the way in which tissues are handled, may have something to do with the course taken by the wound. In medicine and general practice, the difference in curative skill is less easily explained. It is true, as Professor Osler says, that the best doctor is the one who gives hope. But besides this there must be some subtle instinct in the adaptation of means to the end which leads one man right where another goes astray. Sometimes a doctor may unconsciously be ahead of his day, as when Antonius Musa cured Augustus of a complication of ailments by cold baths. Dr. De Lisle, in a paper read at the annual meeting of the New Zealand Branch of the Association, and published in the *New Zealand Medical Journal* for February, relates that in the Thirties there was a physician at St. Thomas's Hospital who treated his fever cases much as they would be treated to-day. The students thought him an old woman, would not go round the wards with him, and took out their lectures in the practice of physic at Guy's. A gentleman whom Dr. De Lisle knew, who got his diploma in 1836, told him he considered himself unfortunate in being appointed clinical clerk to the physician in question; nevertheless, he observed that the death-rate was smaller in his wards than in those of the other physicians, and that while other men's patients were sitting over the fire spitting, his patients were out of the hospital and at work. We have ourselves known a specialist who was very successful in curing cases of uterine displacement by feeding, with little or no local treatment. His assistant

confessed that he thought his chief an old fool, but he faithfully carried out orders, and was astonished by the results. It would be interesting as well as important to ascertain exactly in what "curative skill" consists, so that the power could be cultivated. We fear, however, that it depends on some inborn personal quality which cannot be communicated by teaching.

A NATIONAL HOSPITAL.

TURNING over recently the pages of an early edition of *Burdett's Hospitals and Charities*, the following passage caught one's eye: "The most interesting of this group "(miscellaneous hospitals) and the best is the National "Hospital for the Paralysed and Epileptic. It treats a "very extensive class of patients with an efficiency "and success which leaves nothing to be desired." These words are as true to-day as when written some twenty years ago, for the institution has well maintained its promise and has claims to the title of "national," such as cannot be equalled by any other hospital in the country. For a long time past it has been a Mecca for post-graduate students from all parts of the British Empire, and probably does more than any other individual medical institution in these islands to maintain the reputation of British medicine at a high level among our foreign colleagues. The patch of the field of medicine which it has made its own is exceedingly difficult to cultivate, and must prove absolutely sterile, both in therapeutic results and in acquirement of knowledge, unless tended in a scrupulously scientific spirit and with never-failing courage. These have always been forthcoming, and the impress of the work done in the institution may be found in nearly every journal and textbook dealing with medical science. There will be a general hope, therefore, that its jubilee appeal will meet with a good response. The objects were explained at a festival dinner at the Mansion House last week by the chairman of the evening, the Lord Mayor, and by the treasurer of the hospital, Mr. Frederick Macmillan. A desire for more working space and for greater stability in finance represents them in a summarized form. The need of the latter is not the outcome of recklessness in the past, for it was at this institution that the possibility of bringing about material change in domestic management of like institutions was first recognized, with results which have been more than once quoted in these columns in articles on hospital administration. The desire for more space is also quite natural. Its consulting rooms, used as they are as places of post-graduate study, have to be unusually large, and as so many of the patients are helpless more dressing-rooms are required than are elsewhere found necessary. Modern developments in physico-therapy have also helped to create a demand for further space; exercises form now an important part of the treatment administered, and a new room in which to conduct them is needed. Nor are the present quarters for nurses what they should be in a leading hospital. The sleeping quarters are crowded, and the living rooms small and gloomy. All the improvements thus indicated to be required can be provided for about £50,000, which sum would likewise suffice to put the finances of the hospital into a satisfactory position. The sum collected in the room at the Mansion House was not as satisfactory as it might have been, but it may be hoped that between now and the date at which the King has promised to visit the hospital in November the whole sum will be in hand. Meanwhile, and as a further stimulus, H.R.H. the Duchess of Albany is to receive purses at the hospital in October. Part of the hospital is a memorial to her late husband, the youngest brother of the King, and she is taking an active part in promoting the success of the appeal. Every penny contributed will go direct to the hospital, as she has established an expenses fund to pay for printing, postage, and other connected outlay.

SPEECH FRIGHT.

SIR JOHN BYERS has kindly sent us a very interesting addition to the growing mass of testimony and opinion on this subject which we continue to receive from various quarters. In an address delivered by him to the members of the Literary and Scientific Society of Belfast on January 25th, 1906, and reprinted as a pamphlet, Sir John Byers discusses with keen appreciation the qualities of the late Lord Dufferin as a public speaker. Referring to an address delivered by Lord Dufferin to the students of Queen's College, Belfast, Sir John Byers gives some extracts which bear directly on speech fright. We reproduce some of them here, in the hope that they may be useful to those to whose lot it falls to speak in public. Lord Dufferin said: "No great orator "has ever lived who did not feel very nervous "before rising to his feet. I have often seen the "legs of one of the most effective and heart-stirring "speakers in the House of Lords, to whom that "assembly never failed to listen, shake like an aspen "leaf during the delivery of the first few sentences of "his speech [Lord Dufferin told Sir John this was "Lord Derby]; and should the young speaker feel his tongue grow twice too big in his mouth, and curl "itself inextricably round one of his canine teeth, "he may console himself with the conviction "that he possesses one at least of the character-"istic qualities of a great speaker." Lord Dufferin himself was always nervous about speaking, and in his later years the thought of having to speak lay heavy on his mind beforehand. In this respect he resembled John Bright, whose sister, Mrs. Lucas, told Sir John Byers that he was always nervous when rising to speak, and his friends knew beforehand from his preoccupied manner when he was likely to deliver one of his great orations. Lord Dufferin went on to insist that no very good speech was ever made without a considerable amount of preparation, at all events, until long practice had so cultivated the speaker's faculty as to render the art of thinking aloud with fervour and precision a second nature. Even so, he said, he had heard a Lord Chancellor break down and a Prime Minister lose the thread of his discourse. He explained that by preparation he did not mean learning a speech by heart, but the saturation of the mind with a knowledge of the subject and then the construction, not necessarily in writing, but in the mind, of a well-knit skeleton of the argument or exposition; finally when out walking or in the solitude of one's own room, the language in which the ideas may most fitly be clothed should be considered. "A crowded street," said Lord Dufferin, "is not a bad arena for this exercise, as it "accustoms you to abstract your thoughts from out-"ward objects, and will render you proof against the "discouraging smile of an over-critical opponent. "Should you wish to go a step further, and embody in "sound the thoughts that burn within you, you can "always fall back upon the wandering stars "for an audience. A very distinguished member "of the House of Commons communicated to me "years ago in the hunting field the plan which he "adopted, and certainly in his case the result was "extraordinarily effective. He said that when about "to make an important oration he used to write "down what he intended to say as rapidly as he "could on successive sheets of paper, which he threw

"into the fire the moment they were filled, without "reading them over. This process he repeated seven "or eight times, and, as a consequence, he found "when he repaired to the House that, in no sense "dependent upon his memory for a sentence, these "preliminary canters over the ground to be traversed "had supplied him with a fecundity of expression and "a lucidity of ideas to which otherwise he might "never have attained. At all events, if you ever put "a speech on paper, don't let the copy slip out of "your pocket." Speakers differ greatly in regard to the manner of preparation. Some write out the whole speech and deliver it, like Sir James Paget, "paragraph by paragraph, sentence by sentence, word "for word, commas and all," as Huxley once said in his presence. Others, like Huxley himself, will write out a speech and then deliver something which in wording at least is wholly different from the manuscript. Others, again, jot down a few headings and speak from these. As for us, to whom we confess, the orator is a dangerous nuisance—for he appeals not to the reason of the individual but to that most mischievous of social forces, the passions of the mob—the rule we would impress on speakers is to have a message to deliver, to do so as briefly and in words as simple and direct as possible, and to sit down. It would be well if speakers would follow the hint given by a man of the world for visitors, "When you have made a good "impression, go away."

PICTORIAL INSTRUCTION IN HYGIENE.

MEDICAL officers of health are only tardily appreciating the value of pictorial representation as an aid in teaching hygienic habits. The advantages of appealing to the popular fancy by means of a picture rather than by printed words, however simply expressed, are sufficiently obvious not to require stating. A good example of what may be done in this direction is to be found in a handbill and poster issued by the New York State Department of Health. In a series of pictures those who are consumptive are shown how they are most likely to be cured; how they may live with others with safety, and in what way they are a source of danger to those who are well. The non-consumptives are shown how they may safeguard themselves against the disease. The pictures are being published in this country (with the permission of the owners of the copyright) by *The Medical Officer*, a newly established journal for medical men in the Government and municipal services. Those medical officers of health who advise their authorities to purchase a supply of these picture placards, either for general distribution or for public display, may feel assured that the money laid out has been wisely expended.

ILLUMINATING ENGINEERING SOCIETY.

THE "Illuminating Engineering Society" was formally established on May 25th with the object of correlating the divergent interests of the architect, the illuminating engineer, the medical man, and the physiologist. The society exists for the purpose of advancing the theory and practice of illuminating engineering and for the dissemination of knowledge, by the reading and publication of papers, the holding of discussions, and the participation in or actual holding of international exhibitions and congresses. A noteworthy feature is that the constitution of the society has been designed to secure the necessary representation of all the interests above mentioned. The need for some such society is apparent to those who have studied the progress of modern illumination. Legislation on the subject is so limited as virtually to be non-existent. Thus in the report of the Chief Inspector of Factories and Workshops for 1908, just issued, one of the inspectors states with reference to illumination in factories, "We have no "statutory provision to rely upon." Legislation is urgently needed both as regards intensity and quality of illumination. Want of light in factories is a common evil, resulting in inefficient work, in an increased number of accidents, and in general hygienic unfitness; and while bad illumination should be made impossible in the interests of the worker, it would be found that the result of wise legislation on the subject would have most satisfactory economical results. The case against bad illumination can be made out with even greater force when the position of the schools is considered. As has been repeatedly pointed out in our columns, the printing of school books often leaves much to be desired, and when to this evil that of inefficient illumination is added, it is hardly surprising that the most serious results are caused to the children's eyesight and to their general health. It is essential that both natural and artificial illumination up to a satisfactory standard should be made compulsory. Inefficient illumination is the most serious evil that the society will have to combat. But in the near future a more insidious evil will have to be attacked. Direct illumination by means of gas and other illuminants is rapidly disappearing, giving place to indirect methods, such as the heating of mantles to incandescence by the gas, and to the production of high temperature effects by filaments and arc lights by electricity. With the increase in the temperature of the source of illumination the quantity of ultra-violet rays emitted has rapidly increased, and Drs. Schanz and Stockhausen, who are still working on the subject, maintain that artificial illuminants are more trying to the eyes than natural light, owing largely to their very much higher percentage of ultra-violet constituents. The continued subjection of the eye to ultra-violet light is said to cause the lens to become fluorescent and eventually opaque, and glassworkers' cataract is attributed to the action of the ultra-violet rays given out by the molten glass. A glass can now be obtained commercially which cuts off the ultra-violet rays without, it is said, seriously interfering with the brilliance of the light supplied. The new society will no doubt consider how the use of these high-power illuminants may most efficiently be controlled. Mr. J. Herbert Parsons, D.Sc., F.R.C.S., is chairman of the Executive Committee, and the society has already received influential support. All further information can be obtained from the Honorary Secretary, Mr. Leon Gaster, 32, Victoria Street, S.W.

PUBLIC HEALTH IN EGYPT.

IN view of an attack which has recently been made by the *Egyptian Daily Post* on the Public Health Department of the Ministry of Interior in Egypt, an abstract of the birth and death returns for last year, which has reached us, is of special interest. The native population of Cairo at the middle of last year is estimated at 657,438, the birth-rate being 47.5, the general death-rate 34.6, and the infant mortality-rate 282 per 1,000. In Alexandria the native population is given as 337,816, the birth-rate as 44.9, the general death-rate as 30.0, and the infant mortality-rate as 259 per 1,000 births. The same statistics regarding the foreign population are of no interest, as they are calculated on the census of 1897. As regards particular diseases, 269 cases of small-pox were notified in Cairo, with 95 deaths; 28 of these were amongst foreigners; while in Alexandria the notifications were 35, and the deaths 19, of which 5 were amongst the foreign population. In Cairo the typhoid deaths greatly exceeded the typhoid notifications, the former

being 183, and the latter 148. Of these deaths, 27 were amongst the foreign population. In Alexandria, the same disease caused 99 deaths, 23 of the latter being cases amongst foreigners. There was also a good deal of typhus, 359 deaths being due to this cause in Cairo and 9 in Alexandria. Altogether, 11 foreigners in these two cities died from this cause. As for plague, the return for the whole of Upper Egypt is 780 deaths, of which 57 occurred in Alexandria, 15 of these being among foreigners. In Cairo no cases of the disease seem to have occurred. As regards the attacks of the paper mentioned, these, so far as we understand them, would seem to be a charge that the statements commonly sent to Europe by a news agency (which apparently claims to base its reports on official information) habitually minimize the extent to which the principal zymotic diseases prevail in Cairo and elsewhere in Egypt. This is a point on which the present report throws no direct light, but it may be said that while the report does not indicate an ideal state of affairs in Egypt, it at least does not tend to support the belief that Egypt suffers more from zymotic diseases than is usually believed to be the case. A death-rate of 34 per 1,000 is high, but not much higher than that returned by some highly civilized cities in other countries. In examining the returns it must be borne in minds that the term "foreigner" does not relate merely to Europeans, but covers Syrians, Greeks, and all persons who in one way or another are enabled to get enrolled at the Consulates, and thus secure whatever benefits arise from the capitulations.

DEAF-MUTISM.

SHOULD a philosopher of the far future ever chance to amuse himself by classifying each past age according to its seeming mental attributes, the term "priggish" is not unlikely to fall to the lot of the present period. Not only is the voice of the *laudator temporis acti* rarely heard in the land, but there is a general disposition to regard all things good—all the scientific and sociological attainments of the hour—as the product solely of those now living. The medical profession is by no means free from the tendency in question, and for this reason, if for no other, habitual study of the history of medicine is to be commended. It is true that there are some difficulties in the way, since an ideal textbook dealing with it has yet to be written. Nevertheless, valuable contributions to some future treatise on the subject are constantly to be found in current literature. A case in point is a paper recently published by Dr. J. Kerr Love of Glasgow,[1] for, though its primary object is to show that the time has come for a new departure in the after-treatment of deaf-mutes—steps being taken to encourage old pupils of deaf-mute schools to consort with the normal members of the community—it incidentally relates much that is not commonly known about the development of oralism. For this, as for so much else, Germany often gets credit which is not its due. The dumb were taught to speak, the deaf to lip-read over a hundred years ago in England, and the method only seems new because sign language—which is less laborious to teach—practically displaced oralism during the first half of last century when the utility of educating deaf-mutes was at length beginning to gain general recognition. For the rest, the evolution of ideas concerning the deaf and dumb, if slow, has been fairly steady. At first, perhaps, the idea of protection mainly predominated, but side by side grew recognition of the practical value of education, and it is now known that deaf-mutes, if properly trained, are likely, individual for individual, to be as independent of assistance as normal members of the community. It is a Frenchman, the Abbé de l'Epée, who should, perhaps, be regarded as the parent of the present attitude towards deaf-mutes, for though he does not seem to have appreciated the full possibilities of what he was doing, he started a public school for deaf-mutes in 1760, nearly twenty years before any one else thought of doing so. Then followed in turn a school at Vienna, one at Meersburg in Baden, one at Bordeaux, and finally, in 1788, one in Berlin. The Abbé de l'Epée's school was taken over by the Government during the Revolution, but the others were from their inception Government institutions. In Great Britain the work, like most other enterprises of an analogous kind, depended until quite recently on private philanthropy. First came the British Asylum for the Deaf and Dumb, in the Old Kent Road in 1792, then a similar place in Henderson Row, Edinburgh. In Ireland, the first public institution was started in 1831. As things now are, the education of the deaf and dumb is compulsory and since the year 1890 in Scotland and 1907 in England, the ratepayers have been responsible for its whole cost. That deaf-mutes may be so educated as to become capable of holding leading positions in business houses is clear from the letters from old pupils of deaf-mute schools printed by Dr. Love.

[1] *Glasgow Medical Journal*, vol. lxxi, No. 6.

ACTINOTHERAPEUTICS.

A RESEARCH studentship in actinotherapeutics, of the annual value of £300, to be known as the Douglas Research Studentship, has been established at Guy's Hospital; the first incumbent will very shortly be appointed, and will be required to take up his duties on July 15th. The Douglas Student, who must possess a registrable qualification, will be required not to hold any other office or engage in any occupation which would prevent him from devoting himself with due diligence to the prosecution of original research. His investigations, unless otherwise specially provided, are to be carried out at Guy's Hospital, under the supervision of the surgeon to the actinotherapeutic department. The student will be appointed for one year, and will be nominated by a special board of electors. Further particulars will be found in an advertisement, but we may add that the appointment will be made by the Treasurer of Guy's Hospital, by whom applications must be received not later than June 28th.

SIR FELIX SEMON, K.C.V.O., Physician Extraordinary to the King, is about to retire from practice, and a complimentary banquet is to be given him by his professional and other friends on Friday, July 2nd, at the Whitehall Rooms, Hotel Métropôle. The organizers of the banquet are anxious to found a lectureship or scholarship in his name to be a record of his scientific work. Mr. Butlin will preside. All communications with regard to the Testimonial Fund, or applications for seats at the banquet, should be addressed to the Honorary Secretaries, Mr. A. Mond, M.P., 35, Lowndes Square, S.W.; Dr. P. Watson Williams, 4, Clifton Park, Bristol; and Mr. H. J. Davis, 8, Portman Street, London, W.

THE annual general meeting of members of the Research Defence Society will be held on Friday, June 25th, at the house of the Royal Society of Medicine, 20, Hanover Square, W., at 5 p.m. The Earl of Cromer, president, will take the chair and give an address. Other speakers will be Sir James Dewar, Sir Arthur Conan Doyle and Professor Starling.

Medical Notes in Parliament.

Vivisection.—The Home Office vote gave Mr. George Greenwood his opportunity of arraigning the administration of the Cruelty to Animals Act. He said the two inspectors under the Act received in all £895 a year. They did not give their whole time to the work of inspection, and he had nothing to say against them personally, but surely it was the duty of an inspector to try to find out any transgressions of the law, to detect and report them. Yet one of them said he was told by the senior inspector when he was appointed that he was not expected to act as a detective. This seemed to be telling him that he need not be efficient. The fact was both inspectors were pro-vivisectionists. In the year 1900 there were, under Certificate A, 8,954 experiments. This certificate allowed these experiments to be conducted without anaesthetics. They were generally inoculations; they might produce terrible suffering and terrible disease, but one would hardly expect the inspector to be present at them. Under the licence which allowed the experiment to be made under anaesthetics there were 1,118 experiments, while under Certificate B, which postponed the obligation to kill until the animal had emerged from the anaesthetic, until the object of the experiment was secured, there were 586 experiments. Then, under Certificate C, which allowed demonstrations to be given in vivisection for the instruction of students, the number was 181. The inspector for Ireland expressed a decided opinion, after many years' experience, that these were demoralizing certificates, and ought not to be granted at all. Take these licences under Certificates B and C. There were 1,885 experiments altogether, and of these the Chief Inspector, Sir James Russell, saw two. In 1905, under the licences in that year alone, there were 1,348 experiments; under Certificate B there were 1,013; under Certificate C, experiments for demonstration to students, there were 145; making a total of 2,506. The number of experiments under Certificate A—the experiments without anaesthetics, and, he supposed, without inoculation—had risen to the enormous figure of 35,429, but he did not count them in. Under Certificates B and C Sir James Russell saw 8, and Mr. Thane said he saw 15, or 23 in all out of 2,500—not 1 per cent. Under these circumstances what was called inspection under this Act was a farce, and almost a fraud. The public thought that these experiments were always subject to inspection. The evidence of the inspectors themselves showed that this inspection, so-called, was really a positive farce, and the public had been lulled into a false sense of security, as really the vivisector did what he liked, sent in his own report, and was never inspected by these officers. He protested against the manner in which the Act had been administered by the officials of the Home Office for the last thirty years. Applications for certificates were referred by the permanent officials to the Association for the Advancement of Medicine by Research—a private body formed for the promotion and protection of vivisection, and of which men might become members on payment of 10s. It was in evidence that the association was started "to bring effectual pressure to bear on officials." What it came to was this: the practice had been that the Home Secretary delegated the matter to the officials and the officials delegated it to the association. He next called attention to the returns presented to Parliament. For many years this return was presented to Parliament in a form which purported to distinguish between experiments which gave pain and painless experiments, but they never classed any under painful experiments, and it was supposed that all these experiments were painless experiments, or that they purported so to be. The return for 1905 came out in a different form, and there was no attempt to distinguish between painless and painful experiments, and he asked a question about it, and the answer was that the change was made because it was found impossible to make a separation between painful and painless experiments in some cases, and it was impossible for any one—even the operator—to discover whether any pain was caused or not. That was a very significant admission, and he thought the change was hardly a change for the better. The Act of 1876 was passed for the prevention of cruelty to animals. The Act was passed and came into existence because of the report of a Commission on which Professor Huxley sat in 1876. They found that there was cruelty, and they said:

> It is not to be doubted that inhumanity may be found in persons of very high position, as physiologists. We trust your Majesty's Government and the Parliament of this Kingdom will recognize the claim of the lower animals to be treated with humane consideration.

The Act was passed, therefore, with this view, that the Home Office was to be interposed between the animals and the vivisectors, and the Home Office was to protect the animals; but speaking generally of the administration for the last thirty years, the officials of the Home Office had conceived it to be their duty to protect not the animals but the vivisectors. There had never been any prosecution under this Act. In the first place, there could not be any prosecution without the consent of the Home Secretary; and secondly, there was no real inspection. One did not know what the inspectors reported. The report was that of the vivisectors, and these vivisectors were not going to give themselves away. They did so now and then, however; but this Act was under the six months limit provided by the Summary Jurisdiction Act, and they could not bring a prosecution after six months, and they never got the report until long after that period had expired after the experiment had taken place. Therefore it was impossible to institute any proceedings. He ventured to hope that in the future the right hon. gentleman might find it possible to administer this Act a little more for the protection of the animals, as the Act required, and a little less for the protection of the vivisectors. Mr. Akers-Douglas, as an old Home Secretary, defended the administration of the Act. It had been administered, in his opinion, in so far as these operations went, with great humanity. The hon. member for Peterborough forgot to tell the House that very careful investigation was made into the character of those who had licences to carry out experiments on living animals by medical authorities. First of all, no operation could be carried out except in isolated places, and no experimenter could have a licence unless he was recommended by certain medical authorities, including the President of the College of Physicians or the President of the College of Surgeons. Therefore, he was hardly right in saying that care was not taken in the question of selecting those who carried out these operations. Sir William Collins said that, as a member of the Royal Commission on Vivisection, his lips at the present time were sealed; but he might say, in view of what had been said in debate, the Commission was now considering the evidence and preparing to issue a report. Mr. Gladstone, in his reply, referred to Mr. Greenwood's statement that when the inspectors went to the laboratories they would have a friendly chat with the operators and do nothing more. That conveyed a very serious charge, but he did not suggest for one moment that it was intended. Mr. Greenwood repudiated any such intention, and Mr. Gladstone went on to say that there was some danger in disputing about the principle of vivisection and the method of carrying out the law. Some might think vivisection was inhuman, and some might think it necessary in the interests of humanity. We had the Act, and it was of no use bandying charges of inhumanity against those who were appointed to administer that Act. He could quite understand that his hon. friend did not intend to say anything which might be construed as offensive to anybody, but it was his duty to stand up for professional men who were serving the Department and serving their country according to their own opinion and consciences, and who were faithfully discharging the duties entrusted to them. It was quite true that their whole time was not given to the work, but they were not paid for their whole time. They must have men who were competent for the work, and unless the Government was prepared to pay a very high salary it would never get officials who would be able to give their whole time to the work. All these were matters of administration by the inspector of the Department, and they came under review. Later on in the debate—after the London ambulance question, flogging, the condition of prisons, the alteration of sentences, the administration of the Aliens Acts, and other matters had been discussed in a thin house—Mr. Herbert Samuel, after Mr. Lupton had again raised the subject of vivisection, said that all these matters were

being thoroughly considered by a Royal Commission, which was now bringing its investigations to a close, and which would shortly present its report. As soon as its report was presented, it would receive the fullest consideration. In this consideration he might add, in reply to the hon. member for Peterborough (Mr. G. Greenwood), who said that his right hon. friend delegated the work of issuing vivisection certificates to the Association for the Advancement of Medicine by Research, there was no foundation for that allegation at all. The Home Office had always investigated each case by the inspectors appointed by the Home Secretary, and it was on the report of those inspectors that the Home Secretary was satisfied or not satisfied as to the suitability of the persons who applied for licences. The debate then reverted to the administration of the Aliens Act, and on this subject a division was challenged, and the vote passed by 140 to 20.

Vivisection and London University.—Mr. George Greenwood asked the Secretary of State for the Home Department last week whether the words "University Physiological Laboratory" in the list of places on the Register under the Act 39 and 40 Vict., c. 77, in the Return of Experiments on Living Animals, No. 172, of June 11th, 1908, referred to the Physiological Laboratory of the University of London; whether that laboratory was now situate in the building which used to be known as the Imperial Institute; whether that building, or the part of it which was used for such laboratory, was purchased by public moneys; whether it was now owned by the State or by the university; and whether he would give directions that in future the returns of experiments on living animals should, in the list of registered places, set forth specifically the addresses of such places, in order that the public might be informed where such places actually were. Mr. Gladstone replied that the answer to the first and second parts of the question was in the affirmative. The answer to the third part was that the part of the building in the occupation of the University of London was transferred to His Majesty's Commissioners of Works under an agreement the nature of which was explained in Parliamentary Paper 300, July, 1839; to the fourth, that it was in the occupation of the university, and was held by the Commissioners of Works, as explained in the Parliamentary Paper just referred to. The return for 1908 was in print, but if his hon. friend would inform him of any reasons for giving more detailed addresses of registered places in future returns he would consider them. In the particular case to which he referred the address given was that used as the postal address of the institution. Mr. Greenwood then asked whether the university physiological laboratory was not in a building which was State property. Did it belong to the University of London or to the State? Mr. Gladstone said he could not say. He was not in a position to answer that question.

Death Certification.—Sir Walter Foster asked the President of the Local Government Board whether his attention had been called to the case of Mary Jane Walker, at Wolverhampton, who narrowly escaped premature burial owing to a medical man having given a certificate of death without having viewed the body; and whether he would take steps so to amend the law with regard to the certification of death as to render such dangers impossible in the future. Mr. Burns replied that he had seen a newspaper report of the proceedings at the inquest in this case. He was afraid he could not undertake to propose legislation on the subject of death certification during the present session.

Chloroform, Ether, and Drugs (New Duties).—Mr. Fell asked the Chancellor of the Exchequer what was the total amount of revenue which he anticipated he would raise from the new duties on chloroform, ether, and other drugs? Mr. Lloyd George said that he was not in a position to give any exact estimate of the revenue for the current financial year from the duties on these particular articles. The total net revenue during the last financial year was £2,127.

Newly-born Calves for Human Food.—In reply to Mr. Cathcart Wason, the President of the Local Government Board said that he could not state the number of newly-born male calves butchered annually in the United Kingdom and Ireland. The carcass of a newly-born calf would usually be regarded as unfit for food, and would be liable to be dealt with by meat inspectors accordingly. If it was necessary to prevent danger arising to public health from the importation or preparation of these calves when intended for sale for human consumption, regulations could be made on the subject under the Public Health (Regulations as to Food) Act.

Military Camp Hospitals.—In reply to Mr. Joynson-Hicks, the Secretary of State for War said that the General Officer Commanding-in-Chief reported that 131 cases had been admitted during the present training period to Bulford Military Hospital, 261 to brigade and regimental hospital tents, and 39 to the military hospital at Tidworth. As regards the cases in the East Lancashire Division, 40 had been dealt with in hospital tents. None of these cases were reported to be traceable to preventable causes, such as inadequate supply of tent-boards and clothing. In reply to a further question by Mr. Joynson-Hicks, Mr. Haldane said that regulations provided for serious and dangerous cases being reported to the relatives of the patients, and a commanding officer must use his discretion in regard to other cases.

Army Hospital Blankets.—Mr. Ashley asked the Secretary of State for War whether the blankets of men admitted to hospital were used by other men, without cleaning, for the unexpired portion of twelve months? Mr. Haldane replied that if the men admitted to hospital were suffering from any disease likely to convey infection the blankets were not used by other men without cleaning.

Cairo Water Supply.—In reply to Mr. John Robertson Sir Edward Grey said that the report of Sir Horace Pinching as to the quality of the water supplied from the wells of Rod-el-Farag was practically endorsed by the Commission appointed to examine the question, which pronounced that the water contained nothing detrimental to health (see BRITISH MEDICAL JOURNAL, May 8th, p. 1135). He was not aware what amount of money was spent upon the scheme, or whether any loss or danger had occurred through the use of the water, but the Egyptian Government had given practical proof of its desire to consult public opinion by the steps taken to examine the matter in consequence of the complaints which had reached them.

The Phthisis Death-Rate in Greenock.—In answer to Mr W. Thorne, Mr. Burns, replying for the Lord Advocate, said that the Local Government Board for Scotland were aware that the death-rate from phthisis in Greenock was somewhat high; they had the matter under consideration and were in communication with the local authority.

The Home Office Vote came on for consideration on Monday last, and Sir Charles Dilke opened the debate with a review of some points in the work of the year. He first of all dwelt on the excessive infant mortality in the towns where the mothers were engaged in work, and quoted from a report issued by the Bureau at Washington, which said of England, "Where mothers worked the majority of the children were dead; where they did not work the majority were alive." He said it was a disgrace that this could be said of some of our towns, and he hoped Parliament would never rest until it had met the evils of infant mortality. He then proceeded to give some gruesome instances of the maiming and death of small children working in factories, and urged a more strict enforcement of the law. He lastly referred to lead poisoning and the progress made in checking it by the Home Office, and said that manufacturers obviously had been trying to use this lead. He showed how this restriction had been beneficial, and called attention to the greater susceptibility of women to the poison. Mr. Gill, who followed, called special attention to the ill effects of dust on the lungs of the workers in the stripping and grinding trades. He said when it was found that 7 out of 10 of the men employed in this work were suffering from pulmonary diseases it was time something definite was done to remove this grievance, and it could be done at no very great cost.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

TREATMENT OF SCHOOL CHILDREN.

THE Hospital for Sick Children, Great Ormond Street, has notified the London County Council that it is willing to provide treatment at the hospital for twenty-five school children a week subject to the conditions that, as far as practicable, every child shall be accompanied by its parent, and that the cases attending on any one day shall be selected so as to avoid placing too great pressure on any one department of the hospital. It was suggested that the cases should be divided between the ophthalmic and aural departments.

The matter came before the Council on Tuesday, when the Education Committee, in recommending the acceptance of the offer, remarked that an experiment on this limited scale should prove valuable as a guide when the Council dealt with the general question. Acceptance would not involve the Council in any expense.

Dr. Beaton said he could not allow this report to go through without congratulating the Council on this great blow struck for the children of London. According to official reports 60,000 children needed treatment of the eyes, 15,000 of the ears, and 3,000 or 4,000 were suffering from ringworm. The Council has arranged with a hospital to treat twenty-five of these children for nothing! Nearly two years had elapsed since the question was first taken up, and now 25 children out of 80,000 were to be treated. Furthermore, 600,000 children had caries of the teeth, but their treatment was not even under the consideration of the Council. It was true that the Council recently determined in its generosity to spend £45 in treating suppurating ears, but none of the money had been spent at present.

Mr. E. G. Easton, a member of the Public Health Committee, in reply to Dr. Beaton, made an attack on the medical profession. Dr. Beaton, he said, should call to the bar of judgement the medical profession, which was responsible, to a very large extent, for the state of things he described. The condition of the children's eyes and ears was to be attributed to neglect by doctors and midwives during childbirth. Did Dr. Beaton suggest that the London County Council should make amends for the misdoings of the profession he adorned? The medical profession were also responsible to some extent for the prevalence of bad dentition, having neglected to instruct their patients in the necessity of keeping their teeth clean.

Mr. A. J. Shepheard said that Dr. Beaton's was a perfectly justifiable protest. He hoped this serious question would not be treated in the spirit of Mr. Easton's speech.

Mr. Cyril Jackson (Chairman of the Education Committee), replying to Dr. Beaton, said that this was the first offer from a hospital to come before the Council, but he hoped and believed there would be a great many more.

The offer of the hospital authorities was accepted with an expression of thanks.

INDIAN MEDICAL SERVICE.

The annual dinner in London of the Indian Medical Service was held at the Gaiety Restaurant on June 10th. The chair was taken by Surgeon-General G. Hay, in the absence of Sir George Birdwood, K.C.I.E., through ill health, and the guests were: General Sir O'Moore Creagh, V.C., K.C.B., Commander-in-Chief in India elect; Sir William Church, K.C.B., President of the Royal Society of Medicine; Mr. Henry Morris, President of the Royal College of Surgeons; Mr. Austin Low; and the Editors of the *Lancet* and the BRITISH MEDICAL JOURNAL. The officers present were:

Surgeon-Generals.—P. H. Benson, A. M. Branfoot, C.I.E., W. R. Browne, C.I.E., J. Cleghorn, C.S.I., J. P. Greaney, L. D. Spencer, P. W. Sutherland, B. Williamson.

Colonels.—W. E. Cates, D. E. Hughes, C. H. Joubert de la Ferté, H. G. L. Wortabet, W. A. S. Wynne.

Lieutenant-Colonels.—W. G. Alpin, N. L. Bartholomeusz, A. T. Bown, W. J. Buchanan, Sir R. H. Charles, K.C.V.O., A. Duncan, G. A. Emerson, P. J. Freyer, G. H. D. Gimlette, H. Herbert, R. A. K. Holmes, E. R. Johnson, D. F. Keegan, S. Little, C. C. Manifold, R. J. Marks, C. Monk, J. Moorhead, J. O'Brien, A. Stephens, T. W. Stewart, A. W. F. Street, C. M. Thompson, W. H. Thornhill, D. Warliker, G. Waters, A. H. Williams, F. W. Wright.

Majors.—H. Bamfield, A. E. Berry, J. F. Blood, C. Bowle-Evans, W. S. Caldwell, C. F. Fearnside, J. Fisher, P. C. Gabbett, G. G. Giffard, C. H. James, A. J. Macnab, W. Selby, D.S.O. G. B. Smith, F. W. Watling, C. G. Webster, E. H. Wright.

Captains.—W. R. Battye, F. F. Elwes, G. King, J. T. Leary, R. A. Lloyd, J. L. Lunham, J. H. Murray, W. S. Patton, A. E. H. Pinch, M. F. Reaney, W. S. J. Shaw, G. Tate, M. H. Thornely.

UNIVERSITY COLLEGE BAZAAR.

In order to find the £7,000 required to free the University College athletic ground at Perivale from debt, to make some necessary extensions, and to effect improvements, a bazaar is to be held on Thursday, Friday, and Saturday, July 1st, 2nd, and 3rd, at the college buildings in Gower Street. The wives and daughters of professors and other lady friends of the college have undertaken the management of twenty stalls. The students at the hospital and at the college have each their own stall, and the stall-holders are hoping to receive assistance in money or in kind from old members of the college. Lord Desborough has promised to assist the college generally, and, with Lord Howard de Walden, will arrange a fencing display. On one, and possibly on several, of the nights there will be a performance of Sheridan's *Critic*. Mrs. Roy will repeat the "Indian Tableaux" with which she recently delighted London. Episodes are to be portrayed from the life of Buddha, and Professor Gardner is arranging a series of Homeric scenes. An exhibition of pictures will be given by those members of the Slade school who have studied or taught there since Professor Brown has occupied the chair. Other side shows are to include demonstrations of the use of x rays and of liquid air by the medium of a "magic" kettle, duologues by well-known artists, variety entertainments, and concerts. The Duke of Connaught has promised to open the bazaar on the first day. The Duchess of Sutherland will perform the same service on Friday, and Lady Reay on Saturday. Amongst patrons of the bazaar are His Royal Highness the Prince of Wales, the Duke of Connaught, and Lord Rosebery.

MANCHESTER AND DISTRICT.

THE HEALTH OF SALFORD.

THE annual report of the Medical Officer of Health for Salford estimates the population of the borough at 239,294; during 1908 the birth-rate was 29·8 per 1,000 and the death-rate 17·9. The number of stillbirths is put down at 270, but there is the usual uncertainty, as this only represents the records obtained from the registrars of cemeteries and sextons. The total deaths were 4,356, and of these more than a quarter were due to lung diseases, 849 being attributed to bronchitis, pneumonia, and pleurisy, and 383 to phthisis. Next in order come brain and nervous diseases 383, heart diseases 326, and diarrhoea 231. Of the zymotic diseases measles caused 168 deaths, and diphtheria 125, the latter being 39 above the decennial average.

Infantile Mortality.

There were 1,110 deaths of infants under 1 year of age, giving a rate of 153 per 1,000 births. This is an increase over 1907, when it was 140, but is still below the average of the preceding five years, which was 162. The death-rate among illegitimate infants, which numbered 231, was 290 per 1,000. The commonest causes of the infant mortality were bronchitis and pneumonia, which caused 136 deaths, atrophy and marasmus 182, diarrhoea 181, and premature birth 128. Compared with the eight Lancashire towns, Salford stands fourth on the list in infant mortality, the rates being Liverpool 142, Blackburn 150, Manchester 151, Salford 153, Preston 154, Oldham 160, Bolton 161, and Burnley 201 per 1,000 births. The infants specially visited and observed with the object of seeing the effect of various methods of feeding numbered 2,262; of these 85 per cent. were found to be breast-fed, and the death-rate among these was 97 per 1,000, only few of them suffering from diarrhoea. About 7 per cent. were fed on fresh cow's milk, with a death-rate of 284 per 1,000, diarrhoea being far commoner among these. It was also noticed that diarrhoea was far commoner when the

infants were given fresh cow's milk than when condensed milk was used.

Scarlet Fever.

There were 1,341 cases of scarlet fever notified, 403 above the average of the preceding five years, with 65 deaths, a mortality rate of 4.8 per cent. of the cases. About 76 per cent. of the cases were removed to the Ladywell Sanatorium. Ninety-six, or 7.2 per cent. of the total cases, were related to patients who had been returned to their home as convalescent after treatment in the sanatorium. The report says "there appears to have been a steady reduction of the number of carrier cases of infection of scarlet fever, which in 1903 was 13.2 per cent. of those discharged after complete desquamation, whereas in the present year it is 6 per cent., and desquamation is no longer taken into consideration in deciding the date of the patient's discharge." It ought not to be argued from this that desquamation has nothing to do with carrying of infection, for though desquamation is now neglected, much greater attention is given to seeing that there are no discharges from the throat and nose, and all that can properly be deduced is that such discharges are worse than desquamation, not that desquamation is harmless. Neither would any comparison with other towns, where desquamation is taken into account as it is in Manchester, be of any value, as other circumstances probably count for more; for instance, there is ground for believing that the use of convalescent wards before patients are discharged is of great importance, as probably there is both an intrinsic infection belonging to the patient, and an extrinsic infectious material inhaled by the patient from other cases, which lodges in the air passages. There is in fact no method of determining whether desquamation is infectious or not, except the discovery of the cause of the disease, and meantime Salford is running some risk in neglecting desquamation altogether.

Diphtheria.

Diphtheria has been unusually prevalent during the year, there having been 629 cases notified, against an average of only 387 for the preceding five years. The death-rate was 20 per cent. of the cases, the rate for the five years being 23 per cent. The attack-rate for Salford is consistently higher than in Manchester and Liverpool, and the medical officer cannot account for this, but the report says:

> It is, perhaps, worth noting in connexion with this point that out of 513 notified cases sent into Ladywell Sanatorium by the practitioners of the borough, no less than 135 showed no clinical signs of the disease, and swabs taken from the fauces and nares gave negative results when examined for the Loeffler bacillus.

This implies rather than states a serious charge against the practitioners of the borough. It is acknowledged that a negative result in examination for the bacillus is not decisive, but patients believe that it means certain absence of diphtheria; and as somehow they often get to know the result of the examination, they jump to the conclusion that their medical attendant has made a mistake and sent them to a place where, if they have not already got diphtheria, they are pretty sure to get it. The statement that "no less than 135 cases showed no clinical signs of the disease" encourages this idea, and in simple justice to the medical men requires further investigation. At present the statement is received with some scepticism. The death-rate for cases removed to the sanatorium was 17.2 per cent., and of those treated at home 31.9 per cent., and the report suggests that this may be due to the lack of confidence in the efficacy of antitoxin among general practitioners. A singular fact has been the frequency of mixed infection of scarlet fever and diphtheria, which gave rise to great difficulty in the hospital. Towards the end of the year a routine practice was adopted of taking swabs from every scarlet fever case admitted, and 58 cases, or 9 per cent. of the total cases of diphtheria, were found to be connected with convalescents discharged from the hospital, many of whom had only suffered from scarlet fever. Comparing Salford with the rest of the country, the mortality-rates per 10,000 living were as follows: England and Wales 1, London 1, the seventy-six great towns 2, Salford 5. As the death-rate per cent. of the notified cases is about the same as elsewhere, it is evident that the true attack-rate is actually, as the notifications show, much higher in Salford than elsewhere, and this throws still further doubt on the statement that so many cases notified showed no clinical signs of the disease. Vigorous measures should be taken to discover what local factors are at work in causing the large excess of cases in Salford.

Tuberculosis and Milk.

For phthisis a system of voluntary notification exists, and during the year 563 new cases were notified, of which 245 were visited by the health officers, and 318 were notified as "not to be visited." The most noticeable facts were the much greater incidence among males (362 cases) than among females (201 cases), and also the advanced age at which many cases commence, no less than 53 of the male cases having commenced after the age of 60. Also, among the male cases, 208 occurred among outdoor workers, and of these 131 were labourers and navvies; 84 samples of milk were examined during the year, and of these 13 were found to be tuberculous. Professor Delépine is engaged preparing a special report on the examination of milk for the presence of dirt, and so far, out of 72 samples examined, 11, or 15.3 per cent., were found to be distinctly dirty, containing 50 parts or over per 100,000 by volume.

Houses and Workshops.

Considerable work has been done in the inspection of insanitary property, lodging houses and workshops, and the report shows that Salford compares favourably in this respect with other towns.

THE MIDWIVES ACT IN SALFORD.

The information given in the annual report of the medical officer of health as to work done under the Midwives Act in Salford during 1908 is decidedly scanty and not altogether satisfactory. The total births during 1908 were 7,264, of which 5,541, or 76.3 per cent., were attended by midwives, and 1,723, or 23.7 per cent., by medical practitioners. These proportions are about the same as last year, and it is difficult to understand why in Manchester only 61 per cent. are attended by midwives, while in Salford over 76 per cent. are midwives' cases. There are fifty-two midwives on the Salford register, so that they average 106 cases each. As the medical practitioners number about 120, each attended only about 15 confinements in the year. During the year two midwives have been reported to the Central Midwives Board and have had their names removed from the roll. The total number of cases of puerperal fever notified during the year was 27, of which 8 died, giving a mortality-rate of 30 per cent. It is noted that 14 occurred in the practice of midwives and 13 in the practice of doctors. This is remarkable, as it works out at 1 case of puerperal fever in every 132 doctors' cases and only 1 in every 395 midwives' cases. This looks bad for the doctors, and the report is so incomplete that no explanation can be extracted from it. If only some particulars were given as to the time that elapsed between the confinement and the first symptoms of the disease, such as were given in the Manchester report for last year, it might be possible to tell how often the disease was caused by something occurring during labour, and how often by some carelessness on the part of the nurse after labour, as the incubation period is fairly well known. Statistics, however, about puerperal fever are extremely fallacious, and there can be little doubt that if a rise of temperature to 100.4° in the puerperium with quickening of pulse for over twenty-four hours is to be the test, far more cases of puerperal fever occur than are ever notified, and with a more careful supervision of midwives' cases by a medical inspector, probably more cases would be found than these statistics show. In any case, seeing that the remote results even of mild cases are often so serious, it is most important that the medical supervision should be as thorough as possible. The amount of chronic uterine disease in Salford is appalling, and there is litt e doubt that this is the result of former neglect of mild or overlooked cases of puerperal fever. The same may be said of cases of ruptured perineum. Before the Midwives Act came into force midwives took little or no notice of even extensive tears of the perineum. In 1906 the Salford midwives notified 19 cases, in 1907 36 cases, and in 1908 48 cases. This by no means shows greater neglect in the conduct of labour, but rather greater care in notifying the cases. But even now probably many cases of rupture are not notified as they ought to be, for it is found that while

the Salford midwives notify 1 case of rupture in every 115 cases of labour, in Manchester, where the midwives are equal, if not superior, in ability, and where the supervision is undoubtedly stricter, rupture was notified in 1 out of every 65 midwives' cases in the year 1907. Such a difference is too great to be attributed to anything except greater care in notifying in Manchester. A similar difference is seen in the total number of cases in which medical assistance is summoned. In Salford in 1907 medical aid was summoned by midwives in 1 case out of every 17 labours, and in 1908 in 1 out of every 14 labours. But in Manchester medical aid was summoned in 1 out of very 7.3 labours in 1907, the figures for 1908 not yet being available. Here, again, it is not that the Manchester midwives summon assistance where they ought to manage by themselves, as the conditions for summoning aid are strictly laid down and the supervision most careful; the reason is rather to be found in the imperfect provision for supervision in Salford, and, considering the large number of births attended by midwives in Salford, there would be ample work for a whole-time fully-qualified medical inspector of midwives in addition to the lady inspector, who would have quite enough work to do in other directions.

WEST YORKSHIRE.

District Medical Officers of Health.

The West Riding County Council is at present considering the feasibility of appointing whole-time medical officers of health for combined areas in the county. In the rural districts and in the smaller towns the medical officers of health are at present general practitioners. It is proposed to combine two, three, or even four small areas and appoint whole-time officers. If security of tenure were only obtained for medical officers of health the difficulty of condemning insanitary property would soon disappear. Rather in this direction appears to lie the solution of the problem than in appointing whole-time officers at inadequate salaries.

Alleged Insanitary Houses in Bradford.

The owners of twenty-seven dwelling-houses in Bradford were summoned recently by the corporation to show cause why orders should not be made for the closing of the houses as dangerous or injurious to health and not reasonably capable of being made fit for habitation. The opinion of the Medical Officer of Health for Bradford (Dr. Arnold Evans) given in his evidence was that the properties were a nuisance and a danger to the health of the people living and working in the neighbourhood. The summonses were, however, dismissed by the bench, who considered that the prosecution had not succeeded in establishing the fact that the properties were not reasonably capable of being made fit for habitation. The Corporation will now no doubt try to compel the owners to put the property into a reasonable state of repair.

Anthrax in the West Riding.

The centre of anthrax investigation in the West Riding has always been in Bradford. Formerly the late Dr. J. H. Bell took a profound interest in investigating and tracing the origin of the disease. His mantle has of recent years fallen on the shoulders of Dr. Eurich, and it is very gratifying to observe the recognition that is everywhere given to Dr. Eurich for his patient and laborious investigations into the causes of this preventable disease. In the annual report of the Chief Inspector of Factories for 1908 Dr. Eurich's methods, investigations, and conclusions are described in considerable detail, and these passages of the report will be found worthy of careful study. At the last meeting of the Anthrax Investigation Board Dr. Eurich reported that since the last meeting of the board, on April 19th, 2 cases of anthrax had occurred, both being external, and that one had proved fatal. A fatal case of this disease occurred at the Bingley Cottage Hospital on May 7th:

> The patient was a man who pricked himself on the wrist with a sharp instrument in the course of his work a week previously. He was seen by Dr. Crocker, of Bingley, a day or two afterwards, who found a small pustule on the wrist. On May 3rd, and again on May 4th, a full dose of serum was given, and also periodical injections of carbolic acid. On May 5th the swelling of the arm had gone down considerably, and the patient seemed to be improving, but on the following day he became worse, and was delirious. Dr. Eurich, who gave evidence, thought that the prick had introduced the bacillus directly into the blood, as the case was more severe than any he had previously seen. The *post-mortem* examination confirmed the diagnosis of the disease.

All the necessary precautions had been taken by the firm of woolcombers who employed the deceased, and the unfortunate loss of this man's life only shows the extreme difficulty of eliminating the danger of infection when the bacillus has at any time had the chance of infecting the material to be treated.

BIRMINGHAM.

The General Hospital.

On June 9th a memorial service was held in the chapel of the General Hospital for the late Miss M. E. Jones, who died on June 6th, and who was until quite recently matron of the hospital. In addition to the matron, assistant matron, house sister, and a large number of the resident staff of the hospital, there were present Sir John Holder, Bart. (Chairman of the House Committee), Mr. B. B. Tilley (Chairman of the Board), Dr. E. Malins, Dr. J. E. H. Sawyer, Mr. F. V. Milward, Mr. C. Woodward, Miss Mossop (Homoeopathic Hospital), Miss Armstrong (Moseley Hall), Miss de Chastelain (Jaffray Hospital), Miss Pidgeon (formerly matron of Jaffray Hospital), and the house governor (Mr. Howard Collins). The service was taken by the Rev. William Card, chaplain to the hospital.

The Lord Mayor (Alderman G. H. Kenrick) opened a large addition to the nurses' home on June 10th. This building, which has been erected to meet the demands of a growing staff of nurses, is especially designed for the night nurses. It is situated on the Wenman Row side of the hospital, forming a wing to the nurses' home, and comprises forty-three bedrooms, and a classroom for instruction in cookery for the sick. The cost of the new wing was about £8,000. A large number of ladies and gentlemen interested in the institution were present at the opening ceremony.

WALES.

The Welsh Medical Dinner.

The sixth Welsh medical dinner in London was held at the Criterion Restaurant on Tuesday, June 15th. The chair was taken by Dr. D. C. Lloyd Owen of Birmingham, and there was a large attendance. After the loyal toasts had been given from the chair, that of the "Prince of Wales" being followed by a most hearty singing of the anthem, the toast of Welsh men practising in all parts of the world and of medical men practising in Wales was given by Mr. Ellis Griffith, M.P., who dwelt on the distinguished position which so many Welsh practitioners had won for themselves in all parts of the world. The toast was acknowledged by Dr. Garrod Thomas of Newport. The toast of "The Visitors" was proposed from the chair and acknowledged by Mr. Henry Morris, President of the Royal College of Surgeons, and by Dr. Simon of Birmingham, who concluded by proposing the health of his friend the Chairman. The response of the Chairman brought the proceedings to a close. During the evening there was much excellent music, Miss Bessie Jones playing a harp solo and an encore, and Eos Dar intoning impromptus containing many topical allusions, more especially to the thirstiness of England which compelled it to go Wales for water; Miss Boddicombe also sang. The arrangements were admirably carried out by the Honorary Secretary, Mr. Howell Evans.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Resignation of Professor Ogston and Dr. Angus Fraser.

At a meeting of the Aberdeen University Court held on June 9th, a letter resigning the Chair of Surgery sent to the Court by Professor Ogston was read by the Secretary. Professor Hay, who was in the chair, said that by the

death of Professor Hamilton and the resignation of Professor Ogston, the Faculty had lost, perhaps, its two most widely-known members. Like Professor Hamilton, Professor Ogston was a man of the first rank as a teacher, and enjoys a cosmopolitan reputation as a surgeon and scientific worker. By common consent he was regarded as one of the two or three great Scottish surgeons of his time. Indeed, it would be difficult—apart from Lord Lister, who had some right to be considered as a Scottish surgeon—to name any other Scottish surgeon of the past thirty years who had done more for the advancement of surgery by scientific research. It added to the pride with which they regarded Professor Ogston that he was educated in that university. He begged to move that they should enter in their minutes an expression of their appreciation of the value of the eminent services which Professor Ogston had rendered to the university as a teacher and investigator of the highest order, and of their regret at his retirement.

The Chairman then referred to another great loss in the medical teaching staff associated with their university. After long years of most able service, their colleague, Dr. Angus Fraser, had retired from the Senior Physicianship of the Royal Infirmary, and with it from his position as one of the Lecturers in Clinical Medicine. There was no one whose great powers as a lecturer and clinical teacher have been more fully appreciated by his university colleagues, and by generation after generation of students, than Dr. Fraser. No one had endeavoured more fully to keep himself in touch with every modern advance relating to his subject, and although he had always been wholesomely sceptical and critical of merely new things, no one had been more ready to make use, for either diagnostic or curative purposes, of every well-ascertained discovery. Dr. Fraser had the personal magnetism of the born teacher, and none of his colleagues had had a stronger hold on the respect and affection of the students. The reconstruction and reorganization of the infirmary, by which their medical teaching had greatly benefited, was largely due to his initiative. Dr. David Littlejohn said he had special reason to know, perhaps, for a longer period than any of his colleagues at the table, both Dr. Ogston and Dr. Fraser, and had been acquainted with the most valuable services they had rendered. Dr. Ogston and Dr. Fraser he had known from boyhood, and they had in Aberdeen been very proud of them and of the position which they had attained and which they had held for so long. Those who were watching events closely, some five and twenty years ago, would remember that the Aberdeen Royal Infirmary had fallen behind externally and internally in the matter of what was looked upon as up-to-date requirements in hospital arrangements and management. Dr. Fraser and the late Dr. Robert Garden drew public attention very forcibly to what they viewed as being behind the times. Their action was strongly resented by the then management of the infirmary, and they practically imperilled their reputation and standing in Aberdeen upon making good the position which they had taken up. The result was that there was a complete reorganization and reconstruction of the Royal Infirmary.

Local Government Board for Scotland.

Mr. George M. Falconar Stewart, secretary to the Local Government Board for Scotland, has just retired under the age limit, and, on the recommendation of the Secretary for Scotland, the King has been pleased to appoint Mr. Abijah Murray, I.S.O., at present chief clerk, to be secretary, in succession to Mr. Falconar Stewart. Mr. Falconar Stewart joined the staff of the Board of Supervision (the earlier name of the Local Government Board for Scotland) in 1883, when he was appointed to undertake temporarily the duties of visiting officer. In 1885 he received a permanent appointment as visiting officer, and in 1897 he was made secretary. Mr. Murray joined the clerical staff of the Board of Supervision in 1873, and, after passing through the various grades, he was in 1897 appointed chief clerk.

Professor Chiene of Edinburgh.

Professor John Chiene has placed his resignation of the Chair of Surgery in the University of Edinburgh, which he has held since 1882, in the hands of the University Court. At Christmas last he obtained leave of absence, but his health we regret to learn, has not improved sufficiently to warrant him in resuming active work at the university.

Edinburgh Royal Infirmary.

New Medical Out-patient Department.

The medical out-patient department of the Royal Infirmary of Edinburgh has been recast during the past year, many additions and alterations having been made. It is now in close proximity to the medical wards; there is a new large glass-covered porch or verandah under which an ambulance may be driven, and there is a large waiting-room (40 ft. by 36 ft. in size) and an isolation room with tiled walls for the reception of any suspected infectious cases. On either side of the waiting-room are suitable dressing-rooms with lavatories for male and female patients. These dressing-rooms communicate by two parallel corridors with a large demonstration or lecture room with raised benches and seats for eighty students. There is a separate entrance for students, a private room for the physicians, and a dark room for eye and throat examinations. Patients can leave without going through the waiting-room. A nurse's room, nurse's kitchen, and laboratory, have been constructed, opening directly off the main vestibule. Steam heated radiators warm the building, and an extract fan electrically driven is provided where special ventilation is needed. The walls of the various buildings are finished in polished Keene's cement, while in the waiting-room, vestibule, and corridors, there is a dado of glazed tiles. The floors in the waiting-room and corridors are of marble terrazzo, and in the dressing-rooms and demonstration rooms of red wood bedded in bitumen on concrete. The demonstration-room is lighted partly by means of three large windows in the end wall, and partly by a large roof light extending the full width of the room. The sanitation is in accordance with modern ideas. The cost has been £3,000, and the architect, Mr. A. Balfour Paul, of Edinburgh.

Edinburgh Royal Infirmary Residents' Club.

The annual general meeting of members of this club will take place in the Caledonian Station Hotel on Friday next, at 7 p.m., when the Secretary's and the Treasurer's reports will be read. The fifteenth annual dinner will be held at 7.30 p.m., when Dr. Byrom Bramwell, president of the club, will occupy the chair. Members intending to be present must send their names to the Secretary, Dr. Edwin Bramwell, 24, Walker Street, Edinburgh, on or before June 21st. The treasurer of the club, Dr. W. Macrae Taylor, has prepared an interesting brochure, giving a history of the fourteen years' life of the club, its rules, a chronological list of events in the history of the residency, lists of presidents, secretaries, treasurers, etc., and a list of residents in the Royal Infirmary from 1837–8 to 1909.

Professor Cleland.

The news that Professor Cleland had sent in his resignation of the Chair of Anatomy in the University of Glasgow is an entire surprise. For thirty years he has worthily upheld the traditions of the chair, and at the time of his resignation was, with the single exception of Professor Ferguson, the senior professor in the medical faculty; but in one sense Dr. Cleland was senior even to Professor Ferguson, as before he was appointed to Galway University in 1863 he had been senior assistant to Professor Allen Thomson. We are glad to say that Dr. Cleland's retirement is due to a desire for rest, and is not dictated by any special indication of failing health.

Ruchill Again.

A new life has been given to the unfortunate Ruchill episode by the wholly unexpected decision of the Town Council to accept and act upon a petition signed by 18,000 citizens. The petition, which has been promoted by the Woodside Municipal Association, is intended to restore confidence in the public mind as to the administration of the hospital. The terms of the petition are as follows:

> We, the petitioners, respectfully call upon the Lord Provost, Magistrates, and Councillors to appoint an independent inquiry into the administration of Ruchill Hospital from the date of the Local Government Board inquiry up to the present date, and would suggest that the parties carrying out the said inquiry consist of our fellow citizens, drawn from the following bodies: Three from the Faculty of Physicians, three from the Faculty of Procurators, three from the Merchants' House, and three from the Trades Council, with a neutral chairman, such as Sir Donald MacAlister or Dr. Robert Gourlay.

This petition was adopted after discussion, and it was agreed that it be remitted to a special committee of the corporation to arrange for an inquiry. The corporation has shown a strange lack of consistency in their conduct of the movement for an independent investigation. As late as April 29th it decided by a large majority not to appoint a special committee of the town council to investigate the conduct of the Health Committee in regard to Ruchill. Yet within six weeks the council has completely turned round, and now has decided to hold an independent inquiry by outsiders, though in the meantime, so far as is known, no fresh reasons have cropped up for holding such an inquiry. It is to be hoped that if the inquiry takes place that it will be the final step in the interminable Ruchill dispute.

Ireland.

[From our Special Correspondents.]

Conolly Norman Memorial Fund.

At a meeting of the subscribers to the Conolly Norman Memorial, held at the Royal College of Physicians, Dublin, on June 15th, under the Presidency of Dr. J. Magee Finny, Dr. Donelan submitted the secretary's report. It was found that the funds provided would not be sufficient to found an after-care association. The committee recommended that the memorial should take the form of a portrait of the late Dr. Norman, to be hung in the College of Physicians, of which he was President at the time of his death, and also of a bust in bronze with marble tablet, to be erected in St. Patrick's Cathedral. It was further resolved that the portrait should be painted by Miss S. C. Harrison and that the bust should be executed by Mr. E. Carré.

Professor Alex. Fraser.

We very much regret to learn that Professor Alex. Fraser, the distinguished professor of anatomy in the Royal College of Surgeons in Ireland, has been suffering for some weeks from the result of septic infection acquired during the preparation of a subject. He is able to be out of bed, and hopes to leave for Scotland very shortly to re-establish his health.

Double Tenancies in Belfast.

In Section xii, or "Summary of Conclusions and Recommendations," of the Report of the Belfast Health Commission, we find in paragraph (7) of the portion entitled, "Sanitary Administration," the recommendation, "Double tenancy of houses should be prohibited, save where suitable watercloset accommodation is provided for each portion of the house let independently." This recommendation was generally approved. The miserable conditions indicated were a scandal and a shame to a civilized community; not merely were they unhealthy, but both morally and physically injurious. Under the influence of public opinion the Public Health Committee served notices on the landlords, and at the meeting of the committee on June 10th it was stated that landlords had given notice to the tenants rather than comply with the council's requirements, and it was affirmed that it was almost impossible to obtain other dwellings. By 6 votes to 4 it was decided to rescind the previous resolution as to the serving of the notices. A subcommittee was appointed to consider the question of erecting artisans' houses under the Housing of the Working Classes Act, in conjunction with the scheme at present under consideration dealing with the removal of insanitary dwelling-houses. The retrograde action of the committee has been condemned in the public press, as may be judged from the following quotations:

> In view of the extent and terrible character of the evil which exists, and which the committee knows has existed for many years, it is difficult to find words sufficiently strong to condemn the action of the committee.
>
> It is the sheerest nonsense to pretend there is not sufficient house accommodation.
>
> The public health authorities have no right to favour slum landlords, who care nothing about the conditions under which their tenants live.

Irish Medical Association.

The annual meeting of the Irish Medical Association was held on June 15th in the Town Hall, Sligo.

The President, Dr. E. C. MacDowel, in his opening address, said no doubt the reason Sligo was chosen as the seat of the conference was that the Sligo Branch had succeeded in getting a graded scale of salaries adopted in the Sligo Union. Some 50 out of 159 unions had adopted the scale, and some 400 dispensary medical officers had benefited accordingly. This was a result of which the Irish Medical Association might be proud. He would like to be able to speak more hopefully as to the future prospects of superannuation, but under the present régime a life of grinding toil, of self-sacrificing devotion to duty, would not gain this reward unless the medical officer was able somehow or other to conciliate his masters. Last October Dr. Rawson, of Carlow, the Medical Officer of Carlow Union, was refused superannuation after twenty-six years' meritorious service. He had since been granted a miserable pittance of £30 per annum. The Castlerea Guardians also recently refused superannuation to their aged doctor, now gone to his long rest. It was humiliating in the extreme that doctors should be subjected to such cruel injustice. Referring to the recommendations of the Viceregal Commission, Dr. MacDowel expressed the hope that the Legislature would not repeat the errors of 1838 and foist on the country a Poor Law authority under a new title. The Poor Law system was always detested by the Irish people ever since it was introduced; it treated poverty as if it were a crime; and, notwithstanding certain alleviations, the dislike still continued. The report of the Viceregal Commission was a most able and exhaustive document, and a really statesmanlike effort of three distinguished Irishmen to deal with the reform of the Irish Poor Laws. There was an absolute unanimity of opinion throughout the Poor Law Medical Service that the Public Health Administration had been an utter failure. This breakdown had been most marked in the small towns and rural districts, the sanitary condition of many of these being deplorable. The sanitary laws, taking them all round, were excellent; the failure was due to the fact that they were very rarely administered with firmness. The failure could not be laid at the door of the medical profession. No more faithful servants ever existed than the Poor Law medical officers of Ireland. The blame was to be attributed to the obsolete, ineffective system; and the initial mistake occurred when the Public Health Act of 1876 made every Poor Law medical officer *ex officio* a medical officer of health. The onerous duties placed on them were only rewarded with a nominal salary of the most miserable description, and it was not to be wondered that the new responsibilities were often evaded. The next and most fatal error was in the constitution of the so-called sanitary authority. These bodies, which knew little of the A.B.C. of sanitation, were the practical masters of medical officers. The medical officer had to report to this body, which could carry out his suggestions as it thought fit, and very often his valuable report was consigned to the waste-paper basket. There was an urgent need for a Minister of Public Health, and the creation of a strong central medical board vested with sufficient powers to influence all medical legislation for good, and presided over by the Minister of Health. The question of a State medical service, and the cost thereof, to be defrayed out of money voted by Parliament, was of enormous importance. The formation of such a service would greatly raise the prestige of the profession, and ensure the election of medical officers on merit, and not on political or religious grounds. It was notorious that in the elections there was much bribery and corruption, and such practices were on the increase. Referring to Sligo, the President said the less said about its sanitary condition the better. The streets were badly kept, there was a very imperfect system of scavenging, and the poor dwelt in many instances in foul alleys. The Infectious Diseases Act was not in force, the town had no public ambulance, no baths, while means of disinfection were often ludicrously ineffective, and the results were deplorable.

The Apothecaries' Hall.

On June 11th the members of the Apothecaries' Hall, Dublin, presented the Governor, Dr. Seymour Stritch, with a service of plate on the occasion of his marriage. The presentation was made on behalf of the subscribers by Colonel Adye-Curran, M.D., F.R.C.S., who said that though the Hall was founded by the Irish Parliament in 1791, it

was the first occasion on which the governor had been married during his year of office. Dr. Stritch acknowledged the testimonial in a suitable speech.

CORK MEDICAL AND SURGICAL SOCIETY.

At the recent annual meeting of the Cork Medical and Surgical Society the following officers were elected for the session 1909–10: President, Professor D. T. Barry; Vice-President, Dr. J. Booth; Honorary Treasurer, Dr. C. B. Pearson; Honorary Librarian, Dr. E. Murphy; Secretary, Dr. J. T. O'Connor. A Council of seven members was also appointed.

WAR IN CASTLEREA.

Though we have not referred to the proceedings of the Castlerea Board of Guardians for some months, it must not be supposed that this celebrated board has been idle during that period or failed to provide a weekly supply of entertainment for the Irish community. Indeed, it has been going stronger than ever, but as we foresaw a climax was impending we thought it better to defer further reports until it occurred.

At the risk of wearying our readers we must, however, recapitulate in brief the contest of this board with their medical officers and the Local Government Board.

Castlerea is a large union hitherto divided into four dispensary districts, and included in it are a number of small towns. About two years ago the four medical officers applied to the guardians for a graded scale of salaries as in other unions, assigning as their reason that their salaries of £100 a year each were insufficient to provide for the bare cost of locomotion in their very large districts. The guardians, after sundry facetious comments, consigned their application to the waste-paper basket, and a similar application, made a few months later, met with a similar fate.

Then the medical officers applied to the Local Government Board, and that body sent the guardians a mild remonstrance and a request for a reconsideration of the matter, followed, so far as the guardians were concerned, by a repetition of the facetiousness and a further recourse to the waste-paper basket. A further remonstrance in stronger terms had the same result.

Next the Local Government Board sent down an inspector to hold a sworn inquiry. The doctors gave evidence as to the vast areas they had to cover in the discharge of their duties, one district being eighteen miles from end to end; some of the guardians also gave evidence. Those who lived far from a doctor thought they should have one next door, and those who had a doctor close at hand thought four medical officers quite enough for the poor of the union. Of course, it was always the "poor of the union" they were anxious about, but, as was to be expected from arithmetical considerations, the majority wanted more doctors—not for their own convenience, only for the poor. So the Local Government Board invited them to frame a scheme for dividing the union into five districts with five medical officers.

Our readers can imagine the wrangle that ensued. Every time a resolution was carried a notice of motion was given to rescind it, and so the game went on for months, until the Local Government Board walked in with a sealed order rearranging the union into five districts as it thought most suitable.

It was then that all the blood of their heroic ancestors flew to the guardians' heads. "Resolutions and counter resolutions to be sent to the local M.P.'s, the Chief Secretary, and others," were passed or rescinded on alternate weeks protesting against this further injustice to Ireland, but all to no purpose. The Local Government Board refused to budge.

The next step was that the guardians instructed their solicitor to apply for a writ of *quo warranto* to set aside the sealed order as being *ultra vires*. It came before a judge of the High Court in due time, and was promptly decided against the guardians. It was a severe blow to their patriotism. They did not go so far as to say the judge had been bribed, which was rather surprising, but after a tremendous fight amongst themselves they decided to appeal. The appeal was dismissed with some £600 costs, and we believe it was this £600 saved the unfortunate ratepayers of Castlerea from an appeal to the House of Lords, for defeat there would have been disastrous.

The Local Government Board having ordered the guardians to advertise for two medical officers for the two new districts created by their order, they had no choice, but they overreached themselves by inserting an illegal condition. They advertised for two medical officers at a salary of £100 a year each, imposing a condition that they should attend "poor persons," a most elastic term in Ireland, at ridiculously low fees when distances are considered. The election took place, and the result is seen in the following letters:

Local Government Board, Dublin,
May 7th, 1909.

Sir,—The Local Government Board transmit herewith, for the information of the board of guardians of Castlerea Union, a copy of a letter which they have received from Dr. J. W. Beirne, complaining that at the election held on the 17th ult. to appoint medical officers for the Ballaghaderreen and Loughglynn districts, the guardians endeavoured to impose upon the candidates, as a condition of appointment, that the person appointed would attend private patients upon a special scale of fees fixed by the board of guardians. Dr. Beirne stated that the candidates, when the matter was brought under their notice, held a conference, and arrived at the unanimous conclusion not to consent to the suggested scale of fees, and signed a document to that effect; but that subsequently some of the candidates, notwithstanding this undertaking, notified their acceptance of the scale of fees. In the circumstances Dr. Beirne states he refused to allow his name to go forward to the poll for the medica officership of Ballaghaderreen district as a protest against the proceedings. The Local Government Board have to point out that however desirable it may be that scales of fees should be arranged under Article 7 of the dispensary rules, guardians are not authorized by law to require candidates for the office of medical officer of a dispensary district to agree to accept a fixed scale of fees for attendance upon private patients, and they have to intimate that the manner in which the election was conducted by the guardians on the 17th ult. was such that the Local Government Board, in the exercise of their discretion, consider that they should not approve of the appointment made if the facts are as stated in Dr. Beirne's letter, but that a fresh election should be held.—I am, etc.,

A. R. BARLAS, Secretary.

(Copy of letter.)

Ballaghaderreen, April 19th, 1909.

Sir,—An election for the appointment of medical officers for the Ballaghaderreen and Loughglynn Dispensary Districts was advertised to take place on Saturday last, April 17th, at Castlerea, and in accordance with the advertisement I was a candidate for the Ballaghaderreen vacancy, and having made my application I attended on Saturday last the meeting of the board at which the election was to take place. When the motion for the election came on there was a proposal moved of a scale of fees, no mention of which was made directly or indirectly in the advertisement for the appointment, and naturally I felt constrained to object to the procedure on principle. Some councillors moved that the candidates for the position should consult amongst themselves as to the advisability of agreeing as to this new element of the scale of fees being introduced into the appointment and therefore allow the election to proceed. The candidates accordingly held a consultation, and came to the unanimous conclusion that they would not consent to it, and signed a document stating that they would not agree to the scale of fees being introduced then. After this document was signed and handed in before the board, some of the candidates changed their minds, and, I presume, acting on the suggestion of their friends, or for some other reason, made up their minds to sign a document accepting scale of fees, and the election being proceeded with. I refused to allow my name to go forward, as a protest against the irregularity and illegality of the whole proceedings. I now formally protest against the action taken, and ask the Board to refuse to sanction the election, and request that a new election be ordered.

(Signed) J. W. BEIRNE,
Acting M.O., Ballaghaderreen.

In the apportioning of the new dispensary districts the town of Castlerea was taken from Dr. Donnellan, who had been the leader of the insurrection, was the oldest medical officer, and had the largest district in the union, and given to Dr. O'Donoghue, who held an adjoining district, but the Local Government Board decided most justly that Dr. Donnellan, who had over twenty years' service, should not be required to leave the town of Castlerea to reside in another part of his district, and they also advised the guardians that Dr. Donnellan was entitled to reasonable compensation for the loss of registration and vaccination fees, also for the loss of the most easily worked portion of his district, and that Dr. O'Donoghue was entitled to have his salary increased on account of the extra work thrown upon him. "A further attempt to rob the poor ratepayers by the minions of an alien Government" was about the mildest comment upon these suggestions as they were

consigned to the waste-paper basket, which by now must be pretty full. Having afforded the guardians full time for consideration without any effect, the Local Government Board have sent them a sealed order, fixing Dr. Donellan's salary at £140 per annum and Dr. O'Donoghue's at £122—certainly a most inadequate recompense in the case of a man who like Dr. Donnellan has devoted his life to the work.

We should be sorry to assert that Castlerea is a specimen of all other Irish boards of guardians; but there is far too much of this sort of senseless extravagance going on to the detriment of the interests of the ratepayers, and we think that the extended powers for the Local Government Board asked for by that able administrator Mr. John Burns would be an incalculable benefit to Ireland. A large extension of the powers of that Board would make for efficiency and economy impossible under the present system. That the people realize this was shown by their unanimous approval of the proposals of the Viceregal Commissioners.

Special Correspondence.

BERLIN.

House Disinfection after Tuberculosis.—Portable Field Cooking Apparatus.—Treatment of Inebriates.

THE magistrates of Wilmersdorf, a large suburb of Berlin, have determined to carry out, free of charge, the disinfection of all homes in their district from which a tuberculous person or persons may have removed. It will be interesting to see how this measure, which was much discussed and warmly advocated at the recent Congress for Tuberculosis, and has been in force for some time in other countries, will work in Germany.

The Berlin branch of the German "Vaterländische Frauenverein" recently invited experts to witness the practice of a special ambulance detachment, and to test a new transportable camp-kitchen for army purposes. This kitchen, which was constructed by the Senking Works in Hildesheim at the suggestion of the Prussian War Ministry, consists of a boiler for 200 litres of food, and a coffee-boiler for 50 litres, both of which can be expeditiously heated in an oil-bath, thus avoiding freezing of the water, which is the great danger of the ordinary water bath (*bain-marie*) cooking. The boilers are made of pure nickel, to prevent oxidation of the food, which remains good for thirty-six hours without any replenishment of the fire, and which can even be kept for three or four days without turning sour, if the boiler-temperature does not fall below 40° C. The whole apparatus is most simple, and can be managed without previous instruction. Directions for use are fixed in a prominent place. The price is from 4,500 to 5,000 marks, that is, £225 to £250.

In a petition lately presented to the Prussian Diet, the Association of German Inebriate Asylums prays for more efficient legislation in the care of habitual drunkards. It appears that there are at present in Germany thirty-one charitable establishments for the care of inebriates, with 1,137 beds in all, and that during the year 1907 1,500 persons (of whom 188 had previously been interdicted) were received as inmates. At the close of 1907 there were 761 beds occupied. If these small numbers be compared with the thousands of dipsomaniacs who, year out year in, crowd German general hospitals and lunatic asylums; if the enormous sums these miserable victims of alcoholism cost the State and the municipalities be remembered, then every one must agree with the petitioners that stricter, and above all more practical, measures are required than the present method of interdiction preceding forced seclusion. In Germany hardly more than a thousand persons are annually put under trustees, the reason not being far to seek. Besides the difficulty of finding a "disinterested party" among the near relations, the dipsomaniac's family is deterred from applying for his interdiction sometimes by false shame or want of energy, and often by fear of his brutalities, or by apprehension of the expense. The Poor Law guardians, too, dread the trouble and costs of the present complicated procedure, and so things continue to go on in the old unsatisfactory manner, though the evil is known and acknowledged.

Correspondence.

SPEECH FRIGHT.

SIR,—I love to see a letter from Dr. Farquharson! It is sure to be out of the beaten tract—something original, something interesting. But I suppose that when he was a hospital physician he used to write like the rest of us, saying that the temperature was high or the appetite bad. (You, Mr. Editor, know the style.) However, I am not alluding to-day to written articles and reports, but to speeches.

One of the finest speeches which I have ever read was Lord Rosebery's of the other day to the press delegates. I wish that I had heard it! And as I read it I said to myself, "And this great orator once lost his thread in the House of Lords." And the thought gave me great comfort. Rosebery, the greatest and most graceful of our speakers, "drying up," as the actors say.

"After the Lord Mayor's carriage comes the dust cart." Sometimes I make a speech. I never seek to make one. I always back out of it if I can. But every man has a certain amount of duty which he must not shirk, and now and then I feel bound to accept the invitation to make a speech. And from the moment that I have accepted a cloud hangs over me! When I wake in the morning I say to myself, "In three days I have to make that speech," and the same thing occurs with increasing frequency as the time approaches. As the days pass by I get together some rough ideas and dot them down on a piece of paper. Then I get the words into sentences, and polish them up as best I can. It is probably an after-dinner speech; and at the dinner I am miserable. When the soup is put before me I want to stand up and deliver myself. But I must not. As the dinner goes on every one around me seems to be quite happy; I am miserable. At last the Toastmaster calls out, "Pray silence for your Chairman"; and then I feel inclined to slink off and never return. But I can't. I have undertaken to make a speech, and I must needs see it through. But my time is not yet. There are other speeches before mine, and songs or recitations, all of which prolong my misery! My neighbour at the table says, "I see you are down for a speech." I reply, "Yes, I am sorry to say that I am." He rejoins, "You? Why it is nothing for *you* to make a speeh; you are first-rate at it." He is kind and flattering, but he doesn't *know*. As a matter of fact, I am miserable. My heart-rate is becoming excessive, and I am breaking out into a profuse perspiration. My hands are clammy, and I am more miserable than ever. Then my turn comes, and I give a sigh of relief, much as, I suppose, the criminal does when he descends from the dock to *do his time*.

Somehow or other, I have always up to this got through the task without failure, but I am always more disappointed with the result than my kind friends seem to be. I am thankful that I have not failed; thankful to be safely delivered. And in my thankfulness I am quite humble, and I say to myself that on the next occasion my speech will certainly be a "frost"—that it is only a question of time when a speaker comes to grief. For even the *very best* sometimes fail.

After my delivery I am less miserable than I was; but I am anxious to get home. "I am afraid to think on what I've done; look on't again, I dare not!" But I cannot get away from it, and on my way home I remember the "points" which ought to have been made. My evening has been made miserable, and peace comes only with sleep.

I wish that Dr. Farquharson would ask Lord Rosebery to read the correspondence on this subject and induce him to write a few lines for our JOURNAL. We know that his speech is not, like the song of the skylark, "unpremeditated art," but his art is perfect; it is absolutely concealed. Would that he might tell us how he goes to work!—I am, etc.,

June 12th. CELT.

SIR,—Undoubtedly there is a great deal more in the etiology of this condition than one can perceive at a cursory glance, and is of more importance than a passing notice would lead us to believe; the intricate nervous

metabolic changes which take place whether they be of a functional nature or otherwise, are most difficult to understand, and, from my experience, they occur in several members of a family and in various degrees, and are hereditary. I have a case in my mind's eye now, which to me demonstrates that the "causa causans" is in the commissures between the primary intellectual centres (glosso-kinaesthetic) and the motor speech centre.

This individual as a boy stammered, and while he was perfectly conscious of what he wanted to say, was at a loss to convey his meaning owing to his speech centre, or the commissures between the glosso-kinaesthetic centre on the floor of the fourth ventricle being in some way temporarily aberrated, and this was in all cases intensified during excitement, or when suddenly taken to task, at the same time several other nervous conditions exhibit themselves, such as tremors, twitchings, and jerking movements of the different parts of the body. When speaking quietly and dispassionately language came fairly fluent. As the youth grew older the stammering ceased, or nearly so, and another condition developed, apparently in its stead and evidently closely connected with it, for when under any excitement or undergoing some unusual ordeal, such as being presented to some important personage, or suddenly asked to take part in a discussion, speech seemed suddenly to leave him, or, as it is usually said, "his tongue clove to the roof of his mouth," and often only a few muttered, incoherent sentences could be made; at other times, if suddenly spoken to, while conscious of everything and thoroughly conversant with the details in question, and conversation could be carried on fairly well, some part of the intellectual faculties seemed to be in abeyance—memory seems momentarily to fail—he could not recollect the names of persons and technical things under discussion, which at other times were quite familiar, and in his quiet moments he would be able to write a perfect paper upon the same subject in lucid style without any reference or loss of memory.

I think all this goes to show that the fault lies in the communicating nerve tracts of the brain itself—that is, in the commissures linking up the various intellectual centres with the speech centre—and not the centres themselves from some cause being over-stimulated and fail to act at all. And these commissures are probably put out of gear by some other condition, perhaps, causing momentary stasis or engorgement of the blood in the capillaries surrounding these tracts, involving the motor fibres, too, as tremors, nervous twitching movements, and suchlike frequently accompany and are often observed to be associated with the affection, though I am aware this is contrary to the physiological teaching relative to the cerebral circulation. And anything which could prevent this occurring would, to my mind, abolish or mitigate the distressing condition. In the particular case under discussion a cup of hot tea or coffee—tea especially—had a remarkable effect in calming down and reducing the uneasiness, whether taken alone or after a meal; but the degree of mental disturbance was always much exacerbated when for some hours no food had been taken.—I am, etc.,

Birmingham, June 13th. CLEMENT BELCHER.

SIR,—Although the following note scarcely comes under the heading of "Speech fright," yet it has been recalled to mind by this correspondence and may, perhaps, interest your readers, as it illustrates what is probably a little known therapeutic action of repeated small doses of opium.

Many years ago in India I heard an officer relate his experience during the Afghan campaign. He had occupied an important staff appointment, the duties of which were extremely heavy, entailing much worry, responsibility, and night duty. He was rapidly breaking down, both mentally and physically, under the strain, when one of his native officers strongly urged him to take gr.ss of opium every morning before he commenced work. The remedy was tried, more from curiosity than from anything else. In a week or ten days all the unpleasant symptoms had disappeared; lapses of memory seemed almost impossible, and he went through the rest of the campaign without strain or difficulty. He felt convinced that the use of opium had saved him from a complete breakdown, if not from actual insanity.

The difficulty came later on when the strain was over and it was necessary to give up the drug. This was only accomplished by stern determination, after months of considerable suffering.—I am, etc.,

June 15th. G. H. YOUNGE,
Lieutenant-Colonel, R.A.M.C. (ret.).

SIR,—I am particularly interested in the suggestion made by several correspondents to use opium in some form in the treatment of this condition; for it corroborates a little experience of my own in 1895. This occurred at a picnic to which I had been invited by a brother medico. For some reason, which I cannot now recollect, I took 1 dram of liquor morphinae just before starting. I am by nature of a very retiring disposition, shrinking from all social gatherings, dances, picnics, and the like; in fact I cannot remember ever having really enjoyed one in my life. But, on this particular occasion, all reserve seemed blown to the winds; I was full of go, up to all sorts of pranks and fun; in fact, my host, who had known me for years as a steady, inoffensive young fellow, perhaps a trifle dull, said he never suspected I had as much go in me. Personally, I may say that it is the only occasion upon which I ever fairly "let myself go," and, moreover, I had no unpleasant after-effects, not even a breach of promise action which might quite reasonably have been expected. Warned by medical friends, to whom I have related my experience, I have avoided repeating the experiment, and so, like Oliver Wendell Holmes's funny man, I may say—

Albeit in a general way
I am a sober man,
Since then I never dared to be
As funny as I can.

—I am, etc.,

June 13th. H. E. B.

SCHOOL CHILDREN AND THE HOSPITALS.

SIR,—Dr. Sidney Phillips's failure to appreciate the point of view expressed in the circular on the above subject issued by the Metropolitan Counties Branch Council seems to be due to a misapprehension on his part as to existing conditions. In his letter he three times refers to "the school doctor." But the whole point of the trouble is that there is no school doctor, and that a proposal is being made that the County Council shall remedy this defect by inducing the honorary out-patient officers of the voluntary hospitals to fulfil the functions of this missing official. There are of course medical inspectors of school children, who are not permitted to carry out any sort of treatment; but these cannot be the officers that Dr. Phillips refers to as school doctors, and with whom he intimates that the staff of the out-patient department might co-operate as consultants. One could no more act as consultant to a medical inspector debarred from practice than to a relieving officer without a medical qualification.

I am confident that it is but necessary to point out to Dr. Phillips this error into which he has fallen to ensure that he will reconsider his attitude on this question. It is important that the profession should stand together in resisting the proposals that are being put forward by the County Council or by others on its behalf. When the County Council has made arrangements to ensure that all children found needing treatment in their schools shall secure treatment at the hands of medical practitioners who are properly remunerated for their services, either by the child's parent, or by the Council, or by the guardians of the poor or by the charitable public, or by the friendly societies, or, indeed, by anybody, provided only that they are properly remunerated—then, but not before, it will be possible for the voluntary hospitals to consider the terms on which they can reasonably ask the members of the medical staff to co-operate in the treatment of these children.—I am, etc.,

June 14th. LAURISTON E. SHAW.

SIR,—Dr. Phillips in his sentence, "That a child eligible for treatment forfeits its right to it if its qualification is detected by the State—that is the London County Council," exactly hits the nail on the head. If the State or the London County Council wish to provide medical aid for a child let them pay market price for it.

By all means let the State or the London County Council find out if a parent is doing his duty by his child. Having found out that he is not so doing, let them notify him as to his liability, and see that he accepts it.

The existing law is quite strong enough to enforce proper care of children, and the arrangements of the Poor Law and charitable institutions are able to afford all the relief necessary, if the parent cannot pay the necessary fees.

The owner of the land on which schools are built has not of late years given the ground for them; the architect who drew the plans, the contractor and workmen who built them, the teachers who work in them are all paid for their services. Why should the doctor, who attends to the ailments of the children, be the only person who is not paid a proper fee?—I am, etc.,

Bradford-on-Avon, June 14th. HERBERT P. TAYLER.

"THE DOCTOR AS A VICARIOUS PHILANTHROPIST."

SIR,—I do not know whether you feel obliged to print every letter sent to you or not; but if you do I am sure you must have been as sorry to print as I was to read that from Dr. Wishart Kerr.

Men who act as he did are simply lowering the status of the profession to that of a trade, and that even not of a good trade.

Any shopkeeper seeing a small boy in serious want of food would have willingly given it to him. Most good tradesmen do not require payment before supplying one with goods; but when a poor child has been hurt in an accident, and has been brought to our surgery, we have no right to refuse first aid without payment. We may have the right to refuse to continue the treatment of the case, but the present suffering should be relieved; and Dr. Kerr's refusal to treat the poor child was a disgrace to the profession which he vaunts himself he is upholding.—I am, etc.,

Grange over-Sands, June 7th. OWEN GWATKIN.

SIR,—The letters under this heading must have appealed to all of us and recalled sad memories of time and trouble freely given—alas, too freely. It is a real grievance which the profession has to endure; for not only has the case to be dealt with, but subsequent treatment is also thrust upon one, lest, for instance, a badly united fracture should be ascribed to his improper setting. It produces strange results. For instance, one man I know now poses as a doctor indeed, but of music, when attending, as is his wont, numerous race meetings. He found his little jaunts too frequently disturbed by being called to accidents on the course, which never resulted in anything more than thanks. The climax came when, after attending an aristocratic gentleman rider in a bad accident in the first race and losing his day's amusement and his day's expenses, his little bill was ignored. The work, too, is not pleasant. For instance, after examining as far as practicable an injury to the hip in which one suspects an impacted fracture, it is difficult to answer the numerous inquiries of "Is it broken, doctor?" (such a simple question, too) in a manner that will redound to his after-credit. I have often hoped to meet one British citizen who would exercise charity out of his own pocket in a case of emergency instead of, as now, at the expense of the "noble profession."

The fact is we are too noble and too unbusinesslike, and, considering how many general practitioners can now barely make both ends meet, the time has come to make a stand against the burdens placed upon us. For instance, the petrol tax; we should all take care, by strictly charging mileage and being firm with our country patients, that the tax is paid, not by us, but by the public. Again, does the present state of affairs help the public? No doubt there are many who, like myself, lacking Dr. Kerr's courage, evade the difficulty by issuing orders, "Not at home to accidents." In the end the public get what they pay for (with only about 100 per cent. thrown in), as in the case of club practice where, unwisely for themselves, the best class of working men have cut down fees to a point which compels a corresponding cutting down of visits and drugs. A most exacting profession should at least allow its slaves to be freed from sordid pecuniary worries. We have a monopoly; why not use it? I enclose my card, but fearing local opinion, can only remain

June 7th. NOT AT HOME TO ACCIDENTS.

RURAL DISTRICT NURSING ASSOCIATIONS.

SIR,—Several letters have appeared lately in the BRITISH MEDICAL JOURNAL with reference to district nurses.

May I give my experience of the Belvoir District Nursing Association? This exists to supply nurses to its members, chiefly of the working agricultural type, in this neighbourhood.

The nurses are resident—that is to say, they are sent from the central home to a particular case, and when this is finished they return to the home. In the patient's house they are expected to nurse the patient, cook, and generally look after the welfare of the house and carry out the doctor's orders.

They are clean, respectable women, able to take temperatures, etc., and not above their work. They are not allowed to meddle with other patients than their own, nor to prescribe. They are under complete control. They fill a distinct want, and are acceptable to both their patients and to the doctors.

The advantages of such a system to the district nurse depicted in your columns who is dumped down in a locality to prescribe, nurse, interfere without let or hindrance is obvious. I commend it to the consideration of those who have to form or reform rural nursing associations.—I am, etc.,

Nottingham, June 7th. W. WINDLEY.

THE CAUSATION OF CANCER.

SIR,—I understand from Mr. Marsden's letter that he considers that chronic irritation upsets the normal equilibrium between, say, the epiblast and mesoblast, so that, if I may coin a word, the "tissue-tension" of the one exceeds that of the other, and an invasion results. One can adduce some support for this in the fact that sarcoma is commoner in youth and epithelioma in advanced age. In youth the mesoblastic tissues are at the height of their activity, but the need for surface protection and sensation is not vastly greater than in later life. Here, then, the tissue-tension of the mesoblast will tend to exceed that of the epiblast and hypoblast—hence, sarcoma following a special call upon the reproductive powers of that mesoblast. It is not difficult to imagine, moreover, that partially developed and embryonic tissue will have a higher reproductive tension than fully developed tissue. In advanced age the reverse is usually more marked, since the mesoblast is notoriously atrophic—so also is the epiblast to a lesser degree perhaps, but the work meted out to the epiblast is not proportionately decreased, and, as Mr. Marsden points out, in the case of chronic simple ulcer it is enormously increased as far as the call upon its reproductive powers are concerned.

Thus the "tissue tension" of the epiblast exceeds that of the atrophic mesoblast, and hence the invasion called epithelioma. The same applies to the hypoblast in its relation to the mesoblast, since many elderly people eat far too much, and are frequently constipated and take little exercise. I have heard it stated that malignant disease is due to primary degeneration of the basement membranes; but I imagine the proof of this would be difficult to obtain even if it were shown what part the basement membranes played in keeping the cells in their proper place. Doubtless these theories are as "old as the hills," and I venture to predict that the causation of tumours will be discovered by the bacteriologist and not by the morbid histologist or embryologist.

From the bacteriological point of view it may be assumed that the parasite is one against which the leucocyte is of little avail, or is but slowly influenced by chemiotaxis, and to which ordinary granulation tissue by itself is no barrier. Therefore the epithelial cells, to which the parasite strongly appeals, reproduce and endeavour to limit and wall off the invaders. This they are unable to perform successfully, but nevertheless greatly impede their progress; especially in rodent ulcer are they most successful.

In secondary deposits epithelial cells are carried off by the lymph stream to the liver or elsewhere, as also is the parasite, there to start the unequal fight once more, for maybe the epithelial cell is a comparative novice at warfare.

The shrinking of a scirrhus is analogous to the contraction of ordinary granulation tissue. Likewise it may be conceived that the parasite of sarcoma is resisted by the connective tissue cells of the mesoblast, which attain a great size when successful. After all, why should we look to the leucocytes to fight every kind of marauder unaided?—I am, etc.,

Reading, June 6th. CECIL E. REYNOLDS.

OPERATIONS ON THE PROSTATE.

SIR,—Dr. Howat's somewhat trenchant criticisms of my procedure in the case of enlarged prostate, reported in the JOURNAL of May 22nd, demand a reply, not only to satisfy him but also all others who hold similar and, in my opinion, erroneous views as to the value of suprapubic cystotomy in cases of enlarged prostate.

After all, the mortality of suprapubic prostatectomy is not high when one considers the age of the patients and the condition of the bladder and kidneys often present. Mr. Freyer's results, showing a mortality of about 7 per cent. in a large series of cases of all sorts, speak for themselves, and at the meeting of the British Medical Association at which my case was described I reported a small series of 23 cases with one death. The ages of my patients varied from 53 to 79 years. One old man, aged 79, who was operated on for severe haemorrhage, had a double aortic murmur, and is still alive and comfortable one year after. Another weighed 20 st., and had a weak heart, but made an excellent recovery. Other surgeons have had similar results.

Dr. Howat asks whether, when the bladder was opened, examination gave any indication of the degree of difficulty likely to be encountered. In reply to this I may say that on opening the bladder a large firm, elastic, lobulated mass, somewhat cone-shaped, presented almost immediately under the suprapubic wound. The internal opening of the urethra was situated at the apex of the projecting mass, a long finger-length from the neck of the bladder. Surrounding the growth was a deep trench, into the depths of which my finger could not quite reach. Consequently I did not feel the stone, which was not discovered until the prostate had been removed. The only difficulty I apprehended was the mechanical one of being unable to reach the limits of the growth with my finger. I have already reported how I met that difficulty. Dr. Howat agrees that operation was rightly considered, but argues that the operation chosen was the wrong one. He would have performed suprapubic cystotomy, with the object of relieving retention and checking the bleeding. Just so, but the retention having been relieved and the bleeding arrested, what was he prepared to do next? Wait for the suprapubic wound to close? In what other way was he going "to restore its former degree of *efficiency* (the italics are mine) to the bladder?" He must know that closure of a suprapubic wound is only likely to take place when there is free vent for the urine by the natural passage. Even a very moderate degree of obstruction is sufficient to prevent closure of a suprapubic sinus or to cause it to reopen when apparently soundly healed. In cases of enlarged prostate with obstruction closure of the sinus is certain to fail. Consequently the patient is doomed to that most distressing condition—a permanent fistula. Further, drainage of the bladder by the suprapubic route is very imperfect, and is only undertaken in septic cases prior to the performance of prostatectomy for the purpose of facility in washing out. In the case in question it will be seen that it would have been futile to have expected closure of the wound. The patient, who is a well-read man of a high degree of intelligence, had the alternatives, with all the attendant risks of prostatectomy fully explained to him, and he unhesitatingly accepted the radical operation, which, he was informed, would, if he survived, place him in a comfortable position as regards his urinary organs for the rest of his life. My medical colleagues were of opinion that though there was considerable risk with the operation, the patient had a reasonable chance of recovery, and they were further of opinion that delay would not tend to improve the condition of his heart and might be dangerous from the advent of sepsis in his bladder. If any operation were to be performed it would have to be done at once and completed once for all, as the probability was that further operative interference later on would prove too much for him. The patient had a fight for life, but has succeeded beyond my most sanguine expectations, and is now, five weeks after operation, able to be up every day. His wound is dry and he can already retain his urine for five hours, and pass it with ease and freedom.

I would recommend Dr. Howat to reconsider carefully the advisability of performing suprapubic cystotomy in similar cases, unless he is prepared to contemplate the certainty of the persistence of a suprapubic fistula, through which all or most of the patient's urine will be voided, a condition which can only be successfully dealt with by a subsequent prostatectomy.—I am, etc,

Belfast, June 7th. ANDREW FULLERTON.

SIR,—Dr. R. K. Howat's able and unbiassed criticism from a clinical standpoint (p. 1392) on the acquisition of a record prostatic trophy by Mr. Andrew Fullerton is one that will have the endorsement of clinicians. Dr. Howat, perhaps intentionally, omits to question why, in the presence of gravel and haematuria, a radiograph was not taken in this case as a preliminary diagnostic measure.

My excuse, however, for troubling you is to confirm the views expressed on p. 1301 of the previous issue of the JOURNAL by Dr. Alfred Codd, of Wolverhampton, on the treatment of enlarged prostates directly by the *x* rays. If Dr. Howat's line of treatment had been followed, after removal of the calculus, this prostate could have been thus resolved, in so far as its neoplastic tissues were concerned, and the urinary function restored.

Your comments on the function of the prostate on p. 1382, drawing attention to Professor C. Posner's contribution on this subject, are interesting in this reference. May I be permitted to suggest that, as in circumcision, the rule has been for eunuchs to be castrated in infancy or early life, and it is natural for the development of the prostate to be thus arrested in the absence of the testicular hormones? A similar influence being known to follow ovariotomy in young mammals in their mammary development, a fact, indeed, which was also responsible for the application of ovariotomy in the last decade as a remedial measure for mammary cancer, but now of merely historic importance.

The failure of castration as practised in the last decade of the nineteenth century for reducing the enlarged prostate in the aged might be accounted for if it is realized that in the vast majority of such cases the enlargement is not intrinsic and parenchymal, but is interstitial and fibrotic, the sequela of long-standing chronic prostatitis. The senescence of the emunctories, atony of the intestines, with constipation and pre-existing urethral and cystic infection, are doubtless important etiological factors to be borne in mind. Castration in the aged could not, therefore, be expected to do more than remove certain sexual reflexes, thus preventing periodic congestion in the gland.

From the small but gratifying experience radiotherapy has afforded in quickly reducing both enlarged tonsils and enlarged prostates, by means of the filtered *x* rays, on the basis of the impact of the negatively charged molecules of matter, travelling at high velocity through the large proteid molecules, which constitute the cytoplasm of all transitional cells, splitting them up and thus rendering the smaller molecules and débris more diffusible and capable of excretion without damage to the somatic cell elements, their more extended adoption in cases uncomplicated by calculus is to be recommended.—I am, etc,

London, W., June 5th. H. D. MCCULLOCH.

SECONDARY PAROTITIS.

SIR,—I have read with interest in the BRITISH MEDICAL JOURNAL of May 29th the paper by Dr. H. D. Rolleston and Mr. M. W. B. Oliver, and also the note on the same subject by Dr. W. Soltau Fenwick. In simple terms the former show that abstention from food is a leading factor in the production of secondary parotitis, while the latter recommends chewing as a prophylactic measure. The

practical value of these observations is considerable, but I should like to draw attention to what I believe to be an additional factor in the causation of secondary parotitis—namely, morphine.

Taking a wide view of the subject, there is little doubt that the affection is due to the coincidence of two conditions—infection and stasis. If it were possible to eliminate one of these factors, there would be no secondary parotitis. I have seen it stated that the affection can be prevented by oral disinfection. This may be correct; but, if so, the requisite degree of oral cleanliness is difficult of attainment, as the following case will show.

A few years ago a dentist's assistant was under my care for a perforated duodenal ulcer. After the operation I ordered him a carbolic acid mouth wash, and some antiseptic lozenges to suck. In spite of these prophylactic measures both parotids became inflamed and suppurated, causing a prolonged and complicated convalescence. The patient had been given morphine. A careful examination of his mouth did not reveal a spot of dental caries, and one could hardly expect to have again a case so favourable for oral asepsis. Since then at least six cases of secondary parotitis have come under my personal observation, and in every case morphine had been given.

A short while ago a patient of mine was suffering from cerebral thrombosis. Nourishment could be given only with difficulty, and was confined to fluids; thus there was no chewing. The patient was so restless and even violent that she was given hypodermic injections of morphine. Her breath was foul, and the united exertions of two nurses failed to cleanse her mouth. Here were the conditions for parotitis, namely, a septic mouth, absence of chewing, and the administration of morphine; and as a matter of fact a suppurative parotitis ensued. I think that most men would have failed, as I did, to anticipate the complication, partly because it has been associated in the literature chiefly with abdominal lesions. It is to be hoped that in the future this association will be regarded as in no way essential, for it is but a chance. The various causative factors are most commonly present in abdominal cases, but are not confined to these. Given any illness in which there is oral sepsis and arrest of the salivary flow, and parotitis is apt to occur. It is probable also that the administration of morphine, together with the absence of chewing, plays an active part in arresting the salivary flow.—I am, etc.,

Southsea, June 8th. HAROLD BURROWS.

THE PROFESSION, THE ASSOCIATION, AND THE JOURNAL.

SIR,—May I suggest to Dr. Cuthbertson Walker that the records of attendance at Branch and Division meetings indicate that about 90 per cent. of members belong to the Association for the sake of the JOURNAL alone?

Owing to the size of the Branches, only a small percentage of the men in the district can attend the meetings; in urban districts these men are the better-paid members of the profession whose "hours of business" do *not* run to 8, 9, or even 10 o'clock at night, and who live in the fashionable quarter of the town, that is to say, near the place of meeting. In rural districts, the men who attend are again those who have leisure, and who live in the town of meeting.

Few country practitioners can afford half a day for either outside business or pleasure, but they belong to the Association for the sake of the JOURNAL, which keeps them *au courant* of the progress of their art and in touch with medical politics.

The non-members of the Association are those who have no time to attend meetings, and no time or inclination to read a medical paper. To paraphrase Dr. Crawshaw, they say, "What can membership of the Association do for me?"

A new era of prosperity may open with the reception of the Charter, when the Association will be able to offer other inducements to join it; but much more might be accomplished by largely increasing the number of meetings, and holding them in rotation at different places.—I am, etc.,

Bristol, June 5th. HARRY GREY.

THE NEW IRISH UNIVERSITIES.

SIR,—In a fortnight the statutes of the new Irish universities will have passed into law, so that any modifications must be made by Parliament at once.

Convocation of the Royal University—largely composed of medical men—has not been consulted about these statutes, and therefore they need amendment. The Convocation recommended the establishment of a degree of B.Sc. in Public Health. This has been done in Dublin and not in Belfast, but instead of being open to graduates of all universities in the *Medical Register*, is confined, apparently, to those who have taken the M.B. in the University of Dublin.

It is also complained that effort is made to shear Convocation of any real power by confining the power to call meetings of it to the Chancellor or Senate in Dublin, whilst in Belfast members can call a meeting. Power to elect a clerk of Convocation has hitherto lain with that body; now it is transferred to the Senate.

Hitherto Convocation of the Royal University elected a certain proportion, usually of medical men, to the Senate. This power is now taken from them for five years.

There is also a strong objection to persons who have been nominated members of the Senate of the new universities being elected to paid professorships or other posts of emolument. If such are elected they should resign from the Senate forthwith. The institution of a degree of D.Sc. in Veterinary Medicine is desirable—there is a strong veterinary college in Dublin—but there is no provision for the study of diseases transmissible from animals to man. Such post-graduate study would be the result of the possibility of obtaining a higher qualification for a veterinary surgeon. In like manner a much-needed stimulus to the study of pharmacology would result from the granting of a B.Sc. degree in Pharmacology for registered pharmacists.—I am, etc.,

J. C. MCWALTER, M.A.R.U.I., M.D.Brux.,
Dublin, June 10th. F.F.P.S.Glasg.

THEORY AND HYPOTHESIS.

SIR,—It would be pedantic to expect all persons, or any person at all times, to be logically exact in the use of the word "theory." But I think that my friend, Dr. Wm. Hunter, does himself insufficient credit in complaining that his opinion on a certain point is stated to be "only a theory" (BRITISH MEDICAL JOURNAL, June 12th, 1909, p. 1458). Surely a "theory" is a "scientific interpretation of fact," and if the point he makes on the subject of severe anaemias be really a theory, *it must be true.* If, however, the principle contended for be not a demonstrated truth, it should be called a "hypothesis," which may, or may not, now, or at some future time, be proved to be a "theory." Into the merits of the question between himself and Dr. Charles H. Melland (BRITISH MEDICAL JOURNAL, June 5th, 1909, p. 1349, col. ii, line 7) I cannot enter, but my regard for the personality and accomplishments of Dr. Hunter makes me venture to pull him up on this matter of expression in a letter in which he evidently aims to be exacting. It is not necessary for me to justify the definition of "theory" and "hypothesis" here quoted, as it is fully given by John Stuart Mill in his *System of Logic*, Book III, Chaps. xiii and xiv.

Colloquially, the word "theory" has often, if not generally, to do duty for hypothesis, but when language aims at scientific precision it is necessary to distinguish between the two.

I therefore trust that Dr. Wm. Hunter will accept my remarks as no intentional departure from either amiability or appreciation. (See also *Lancet*, April 26th, 1879, p. 289, line 16.)

Liverpool, June 13th, 1909. RUSHTON PARKER.

THE LATE MR. C. G. WHEELHOUSE.

SIR,—It is proposed to place a brass in Filey Parish Church to commemorate the name of the above, whose services to humanity at large, and to Leeds and Filey in particular, deserve some public recognition.

The brass will be placed immediately below a stained-glass window which he erected, and opposite the place where for nineteen years he worshipped.

Mr. Wheelhouse had many friends, patients and pupils scattered about the country, and possibly some may wish

to share in this tribute to his memory. Subscriptions, limited to a sovereign, may be sent to the undersigned.

A. N. COOPER, Vicar.
HENRY FOSTER, } Churchwardens.
A. V. MACHIN, }

Filey, June 7th.

SURGICAL INSTRUMENTS: A WARNING.

SIR,—Will you permit me through your columns to warn medical practitioners to be careful in buying surgical instruments and apparatus from persons purporting to be agents of manufacturers or distributing firms selling such goods? In a case which has lately come before the Medical Defence Union a man representing himself to be an agent of a well-known firm of instrument makers sold to a surgeon a certain instrument and received payment for the same. Later the surgeon was written to by the firm in question, stating that the "agent" had in reality stolen the goods he was offering for sale, and making a demand either for the return of the instruments or payment of the value to them. The matter was placed in my hands, and on behalf of the surgeon I declined to carry out the suggestion made, as the action of the member concerned was bona fide and he had paid the price demanded by the agent, whose credentials he had no reason to disbelieve; and also stated that, should the firm desire to test the matter in court, our solicitors would be fully instructed to defend. Since the date of my letter I have heard nothing further. It would be as well for medical practitioners to merely give an order, and, when payment is required, to send a cheque to the business address of the firm, and not to pay the "agent" himself, unless absolutely certain that he is as he represents himself to be.—I am, etc.,

London, W.C., June 11th. A. G. BATEMAN.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Lectureships.

THE following reappointments have been made:

University Lecturer in Organic Chemistry.—Dr. Ruhemann.
University Lecturers in Chemistry.—Dr. Sell and Dr. Fenton.
University Lecturer in Physical Anthropology.—Dr. Duckworth.
University Lecturer in Special Pathology.—Mr. Strangeways.

Degrees.

The following degrees were conferred on June 10th:

M.D.—A. W. Izard, Trin.; C. N. Le Brocq, Pemb.; A. E. Martin, Down.
M.B., B.C.—E. Beaton, Gonv. and Cai.; A. S. Burgess, Gonv. and Cai.
M.B.—A. F. Jackson, Pemb.
B.C.—L. W. Sharp, Gonv. and Cai.

The report of the syndicate on alterations for the general examination has passed the senate, one alternative being a preliminary examination in science in the subjects of the First M.B.—namely, chemistry, physics, and biology. A student who has passed this preliminary examination in science in all these subjects will be regarded as having passed the First M.B. Examination without the payment of an additional fee. The subjects may be passed separately.

UNIVERSITY OF LONDON.

SCHOOL OF MEDICINE FOR WOMEN.

THE Fishmongers Company has awarded a University Exhibition of £60 per annum for three years to Miss Naomi Tribe, a student of the school.

The Council has appointed Miss Kate Brown, M.B., B.S., to be Demonstrator in Anatomy and Curator of the Museum.

Lady Northcote will present the prizes and certificates to students for 1908-9 on Friday, July 2nd, when Mrs. Garrett Anderson will take the chair at 4 p.m.

UNIVERSITY OF BIRMINGHAM.

Endowment Fund.

THE first list of donations promised in response to the special appeal for the University Endowment Fund contains 125 names, and the total amount of the subscriptions is £75,839. The Chancellor (the Right Hon. J. Chamberlain, M.P.) heads the list with £1,000, £10,000 is subscribed by the Lord Mayor (Alderman G. H. Kenrick), and £2,000 by the Vice-Chancellor (Alderman Beale). Other large contributions are £30,000 from Sir Charles Holcroft, Bart., and £2,000 from Mr. J. A. Kenrick. Among donors of £1,000 each are the treasurer (Alderman Clayton), Sir John Holder, Bart., Messrs. W. A. Albright, J. S. Beale, W. Waters Butler, Barrow Cadbury, Neville Chamberlain, Edward Cheshire, Cregoe Colmore, F. Dudley Dockes, W. Gibbins, A. B. and C. B. Holinsworth, A. Keen, the Right Hon. W. Kenrick, T. Grosvenor Lee, F. W. V. Mitchell, and H. F. Osler.

The Resignation of Mr. Bennett May.

Mr. Bennett May, F.R.C.S., has resigned his post as Professor of Surgery in the university, and the following resolution has been passed by the council:

That the resignation of Professor Bennett May be accepted with regret, and that the best thanks of the council be given to him for his valuable and distinguished services to the Birmingham Medical School during a period of thirty-three years.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ORDINARY COUNCIL, JUNE 10TH, 1909.

Mr. HENRY MORRIS, President, in the Chair.

Fellowship Examinations.

AT the recent examination in Anatomy and Physiology for the Fellowship 45 candidates were approved.

Diplomas of Fellowship were issued to 34 candidates found qualified at the final examination as follows:

Name.	Medical Qualification and School.
Charles Henry James, Maj. I.M.S.... ...	L.R.C.P.Lond., St. Thomas's.
Carlton Oldfield, Leeds	M.D.Lond., Leeds.
Percy Montague Smith, London	M.D.Lond., St. Mary's.
Edmund Arthur Dorrell, London	L.R.C.P.Lond., Bristol and St.Bart's.
Archibald Hugh Pavan Dawnay, London ...	L.R.C.P.Lond., St. Thomas's.
Walter Rothney Battye, Capt. I.M.S., Wimbledon	M.B.Lond., St. Thomas's and St. Bart's.
Thomas Wilfrid Letchworth, Walton-on-Thames	M.B.Camb., Camb. and St. Bart's.
William Herbert Forshaw, Newark ...	L.R.C.P.Lond., London.
Aaron Levy, London	M.D.McGill, St. Bart's.
John Jekyll Rainforth, Lincoln	M.B.Lond., London.
Herbert Francis Woolfenden, Southport ...	M.D.L'pool., Liverpool and London.
Clifford Sidney White, London	M.D.Lond., University College.
Robert Alfred Worthington, Hale End, near Chingford	M.B.Camb., Camb. and Lond.
Frank Anderson Juler, London	M.B.Camb., St. Mary's.
Thomas Charles Clare, Edgbaston ...	M.B.Lond., Birmingham.
John Davis Barris, London	L.R.C.P.Lond., Camb. and St.Bart's.
Thomas Bramley Layton, London ...	M.B.Lond., Guy's.
James Eustace Radclyffe McDonagh, London	L.R.C.P.Lond., St. Bart's.
Sydney Gray MacDonald, Sydney	M.B.Camb., St. Thomas's.
Hamilton Ernest Quick, Swansea ...	M.B.Lond., St. Bart's.
Rupert Farrant, London	L.R.C.P.Lond., Westminster.
Alexander Fleming, London	M.B.Lond., St. Mary's.
James Leonard Joyce, Tenbury	L.R.C.P.Lond., Camb., St. Bart's,
Christian Frederic Louis Leipoldt, Clanwilliam, Cape Colony	L.R.C.P.Lond., Guy's.
William Fulton Neil, Dunedin, N.Z. ...	M.B.New Zeal., New Zeal. and London.
Cecil Frederick Robertson, London ...	M.B.Lond., Middlesex.
Edward Kenneth Martin, Weston-super-Mare	M.B.Lond., University College.
Robert Ollerenshaw, Glossop	M.D.Vict., Manch. and London.
Hugh Raymond Guy Poate, Sydney ...	M.B.Syd., Sydney and London.
Frederick Charles Pybus, Stockton-on-Tees	M.B.Dur., Durham and St. Bart's.
Vincent Zachary Cope, London	M.D.London, St. Mary's.
Arthur Cecil Devereux, Charlton	M.B.Edin., Edin. and Middlesex.
William Maxwell Munby, North Shields ...	M.B.Edin., Edin. and London.
Laurence Christopher Panting, Truro ...	M.B.Oxon., Oxford, and Guy's

Report of the Committee on By-laws.

As requested by the Council on May 13th, 1909, the Committee has taken into consideration the copy of a letter addressed by the Society of Members to the Home Secretary and sent by him to Mr. Wilde for the observations of the College in reply. The Society asked the Home Secretary not to sanction the by-law relating to the admission of women to the College diplomas on the grounds:

1. That it is not necessary.
2. That it places women in an inferior position under an Act not adopted by any other qualifying body.
3. That paragraph 1 is in flat contradiction to paragraph 2.
4. That women will be invidiously treated under the scheme for a future London degree.
5. That the Council has throughout this matter acted directly in the face of the opinion expressed by the Fellows and Members of the College.

The following reply was forwarded by the Committee on the authority given it by the Council to the Secretary of State.

1. It is not customary and it is unnecessary for the College to apply for a Charter to effect changes which it has the power to effect by by-law. The power to admit women to examination for the diplomas of the College is given by the Medical Act, 1876, and the by-law has been made in accordance with the provisions of that Act.

2. The Medical Act of 1876 clearly contemplates a difference in the corporate standing of men and women admitted to medical qualifications, and the Royal College of Surgeons is entitled to give effect to this definite provision of the Legislature.

The property of the College is not vested in the existing Members, but in the body corporate. Members upon their admission pay a fee, in return for which they receive a diploma entitling them, in association with the licence of the Royal College of Physicians, to registration, and to other professional and collegiate privileges, but they pay no further fee or subscription.

If, on petition being made at any future time by the College, the Crown should be advised to grant a Charter giving full corporate rights to women, the fact that the by-law now proposed existed would not place women in any worse position than that in which they are at present.

3. The Royal College of Surgeons is not comparable to a university with its numerous faculties, and there is no reason why it should follow the example of such bodies in framing its regulations. It may be pointed out that the course adopted by the Royal College of Surgeons is the same as that adopted by the Royal College of Physicians of London.

4. In the scheme for conjoint examinations by the Royal Colleges of Physicians and Surgeons and the University of London, it is contemplated that three qualifications should be granted, each of which would be held subject to the laws and regulations in force at the particular institution from which it was derived.

There is nothing anomalous or unprecedented in this arrangement, and indeed it is the position which actually prevails at the present time with regard to those who hold more than one degree or diploma.

5. The quotation in paragraph 5 of the letter from the "Society of Members," with regard to Clause 1 of the proposed By-law XXVI, by omitting the important words, "subject to the provisions therein and hereinafter contained," endeavours to show that the By-law is contradictory in its terms, but these words prevent this being the case.

6. The result of the Poll taken by the Council is set forth in the accompanying document. It will be seen that more than one-third of the Members to whom circulars were sent failed to express any opinion. As regards the supplementary poll mentioned, the Council has no information regarding the number and nature of the replies received, nor, so far as it is aware, have these particulars been published.

The foregoing was adopted by the Council.

Report of the Committee on Anaesthetics.

The Committee recommended that the following be added to he regulations for the licence in Dental Surgery:

6. Of having attended at a recognized dental hospital and school

(*h*) A course of practical instruction in the administration of such anaesthetics as are in common use in Dental Surgery.

The Committee further recommended that a certificate of such attendance be required of all candidates for the licence in Dental Surgery of the College who enter at a recognized dental hospital or school on or after October 1st next.

This was adopted by the Council.

Examiner in Dental Surgery.

Mr. Haslam was appointed a member of the Board of Examiners in Dental Surgery in the vacancy occasioned by the retirement of Mr. A. Pearce Gould.

Examiners for the Membership and Fellowship, and the Diploma in Public Health for the Ensuing Year.

The following appointments were made:

Elementary Biology.—James P. Hill, Thomas William Shore.
Anatomy.—Wm. Hy. Clayton Greene, Arthur Robinson, William Wright.
Physiology.—Ernest Henry Starling, Benjamin Moore.

For the Fellowship:

Anatomy.—Charles Herbert Fagge, Frederick Gymer Parsons, James Sherren, Arthur Thomson.
Physiology.—George Alfred Buckmaster, E. W. Wace Carlier, Charles Frederick Myers-Ward, William Henry Thompson.
Midwifery.—Hugh James Moore Playfair, William Rivers Pollock, James Henry Targett, Walter William Hunt Tate.
Diploma in Public Health.—Part I, Harold Robert Dacre Spitta. *Part II,* Richard Deane Sweeting.

University of Bristol.

Mr. R. J. Godlee was appointed the Representative of the College on the Court of the University of Bristol.

Arris and Gale Lectures.

The Arris and Gale Lectures, which were to have been given in June by Dr. G. Elliot Smith, have been unavoidably postponed until the winter.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An extraordinary comitia was held at the college on Wednesday, June 16th, the President, Sir R. Douglas Powell, in the chair.

Lectures.

The following appointments were announced for the year 1910: Gulstonian Lecturer, Dr. Joseph Shaw Bolton; Lumleian Lecturer, Professor Osler; Oliver-Sharpey Lecturer, Dr. Mott; FitzPatrick Lecturer, Professor Sir Clifford Allbutt; Horace Dobell Lecturer, Dr. Wm. Bullock; Croonian Lecturer, Dr. F. W. Andrewes, vice Dr. Arthur Gamgee, deceased. Dr. Henry Head was appointed Croonian Lecturer for the year 1911.

Darwin Anniversary.

The College Seal was affixed to an address to the University of Cambridge on the Darwin Anniversary.

Communications.

The following communications were received:

1. From the Secretary of the College of Surgeons, reporting proceedings of their Council on June 10th.

2. From the Rev. John G. Geare, of Farnham Rectory, Bishop's Stortford, asking leave to have a photograph taken of the portrait of Dr. Richard Hale (1670–1728) in possession of the College. Permission was granted subject to the usual restrictions.

University of Bristol.

On the nomination of the President, Sir William Church was appointed the Representative of the College on the Court of Governors of the new University of Bristol.

Report.

A report was received from the Representative of the College on the General Medical Council, Dr. Norman Moore, on the proceedings of the Council at their May session.

THE CONJOINT BOARD IN ENGLAND.

Syllabus of Examination for D.P.H.

The secretary of the Conjoint Board of the Royal Colleges of Physicians and Surgeons in England gives notice that on and after January 1st, 1910, a new syllabus for Parts I and II of the examination for the Diploma in Public Health will be adopted. Copies can be obtained on application to the secretary at the Examination Hall, Victoria Embankment.

The Services.

TERRITORIAL FORCE.

AMBULANCE COMPETITION IN LONDON.

The competition for the Hamilton Challenge Bowl took place on Monday at the head quarters of the 5th London Rifles, Bunhill Row, City, and was won by a squad of six men, under Lance-Corporal A. Gray, drawn from the 1st City of London Field Ambulance, R.A.M.C.T.F. The subjects included first-aid and stretcher drill, and the competition was open to all the medical units of the 1st and 2nd London Divisions Territorial Force, and to all regimental stretcher bearers and cadet corps. The examiners were Surgeon-Colonel W. Colver James, M.D., F.R.C.S., Honourable Artillery Company, and Major A. Ducat, M.B., Royal Artillery Corps T.F.

The Challenge Bowl was presented by the late Surgeon-General J. B. Hamilton, M.D., A.M.S., and has been keenly competed for by N.C.O.'s and men of the Volunteer Force for many years. Colonel P. B. Giles, F.R.C.S., A.M.O., 1st London Division, in announcing the result, stated that the Challenge Bowl would be held for twelve months by the Officer Commanding 1st City of London Field Ambulance, and that the conditions of the competition would be changed from time to time.

Medico-Legal.

PRACTICE BY UNQUALIFIED DENTISTS.

A decision of considerable importance to those whose duty it is to suppress the practice of dentistry by unqualified persons has been recently pronounced by the Court of Appeal. The facts of the case as stated were that certain persons entered into partnership to carry on the business of "the extraction and adaptation of teeth." It was a term of the articles that if any member of the firm should take any title, or do anything which should contravene the Dentists Act, 1878, the other partners should be at liberty to terminate the partnership.

Section 3 of that Act provides that a person shall not be entitled to take the name or title of "dentist" (either alone or in combination with any other word or words), or of "dental practitioner," or any name, title, addition, or description implying that he is registered or that he is a person specially qualified to practise dentistry unless he is registered. Two members of the firm fixed upon the partnership premises the following notice: "Bellerby, Heyworth, and Bowen. Finest artificial teeth. Painless

extraction. Advice free. Mr. Heyworth attends here." This was alleged to be a breach of the partnership articles, and good ground for dissolution. Acting on the decision of the King's Bench Division in the case of Barnes *v.* Brown, which was pronounced on October 14th, 1908, Mr. Justice Parker dissolved the partnership. The defendants appealed on the ground that Barnes *v.* Brown was wrongly decided:

That was a case in which the appellant carried on a dentist's practice at premises on the inner door and window of which he exhibited his name and a notice as follows: "H. J. Barnes. Finest Artificial Teeth at Moderate Prices. Extractions, Advice Free. Hours 10-7. English and American Teeth, Advice Free, Painless Extractions." He was convicted of having taken and used a description implying that he was specially qualified to practise dentistry. It was held that there was evidence upon which he could be convicted of an offence under Section 3 of the Act.

After a protracted argument, the Court of Appeal dissented from the view taken by the King's Bench Judges in Barnes *v.* Brown, and reversed the decision of Mr. Justice Parker. In effect this is a pronouncement by the Court of Appeal that the use of such a notice is lawful. The Master of the Rolls said: "As I read the section, it is directed to the personal description of the man as distinguished from the work he does. I cannot find any personal description which brings the present case within the Act."

It is to be observed that the meaning of the words "specially qualified" was not considered by the Court of Appeal, inasmuch as it was not necessary for the purposes of the decision; and it is important to notice that the Lord Chief Justice, in giving judgement in Barnes *v.* Brown, said it was a question of fact for the magistrate to decide whether the defendant had held himself out as specially qualified. Mr. Plowden was of opinion that where a man announces "painless extractions" he professes the highest degree of skill.

Having regard to the object of this legislation, namely, the protection of the public, the decision of this question of fact should always be left to the magistrate. He hears the evidence, and he is surely the best person to decide whether the public are likely to be induced to believe that the irregular practitioner is specially qualified. A case recently at a Dublin police court may be cited in this connexion. The Irish Branch of the British Dental Association took out two summonses against Mr. J. Byrne for unlawfully using the following descriptions:

Consult Mr. Byrne, The worlds expert adapter of teeth; he tenders you original advice on the treatment, acquired through his vast experience of 25 years abroad; decayed teeth infallibly treated by Natures' own remedy: shattered health restored; all parties delighted; consultation free; hours 9 till 7. Metropolitan address. 36 Talbot St. N.B.—Letter appointments specially attended to.

The defendant had also issued this notice:

Are you wanting artificial teeth, or a misfitting case remade? Then come to me. I guarantee my work for life. Instalments taken. Fillings with gold or any of the fifteen amalgams, all one fee, 2s. 6d. Extractions (by my secret method without gas, cocaine, or other drugs) one fee only 1s. Mr. Byrne, 36 Talbot St.

A witness said that he called at the defendant's premises and made an appointment with him. The defendant examined his mouth, and mentioned the fee that would be charged. Upon the authorities cited to him the magistrate convicted the defendant, and fined him £5 for each offence, and gave £3 3s. costs. The report of the proceedings which appeared in the *Irish Times* did not mention the case of Barnes *v.* Brown, but it was probably relied on to support the conviction. If the effect of the decision of the Court of Appeal is to legalize advertisements of this kind, it would seem that the whole object of S. 3 of the Dentists Act has been largely frustrated.

In spite of the reverse which the British Dental Association has suffered by the case of Barnes *v.* Brown being overruled—if it has been overruled—it is to be congratulated upon the suppression of one form of unqualified practice—namely, practice by a limited company. In Jaffe's case, which was heard by an Irish Court in 1904, it was decided that a company not being a "person" could not be convicted of an offence under S. 3 of the Dentists Act. Relying on this decision a company named "Myddletons, Limited," attempted to practise dentistry, but in 1907 the Irish Court of Appeal granted an injunction restraining the company and its directors from adopting such titles as would lead persons to believe that qualified dentists were being employed. Commenting on Jaffe's case in Attorney-General *v.* Myddletons, Limited, Mr. Justice Barton said:

I am disposed to think that the defendant's counsel have endeavoured to found on Jaffe's case a larger claim of privilege for companies than the decision in that case will support. They claim for limited companies, as a result of that case, an unrestricted right to use the word "dentist" or its synonyms in any and every shape, and in any and every context. That case decided that the word "person" in Section 3 of the Dentists Act, 1878, does not include artificial person; and that the section hits individuals, but does not hit limited companies. But a company, although it may be exempted from the penalties imposed by that section, is not, in my opinion, thereby privileged to make false representations, which are calculated to mislead the public as to the qualifications of the individuals whom it comprises or employs. I think that the official documents and advertisements to which I have referred contain representations of that kind. There may be other advertisements or announcements of the same kind. Each might have to be considered on its own merits.

Company practice has also been restrained in England. Thus, in a case decided by a judge of the English Chancery Division in January of this year, an action was brought, at the instance of the British Dental Association, against a company named "George C. Smith (Ltd.)," and against George C. Smith, the sole director, for alleged breaches of the Dentists Act. It appeared that the company had been formed to carry on the business of Smith, who had been on the *Register*, but was struck off in May, 1906. Since that date several convictions had been secured against him. The company was alleged to be unlawfully carrying on the practice or business of dentists at several places in the metropolis and elsewhere. As a result of the case, which was not defended, an injunction was granted perpetually restraining the company "from representing" that they are carrying on, or intend to carry on, the profession or business of a dentist or surgeon dentist as successors to George C. Smith, surgeon dentist, or that they are dentists or dental practitioners, or by any name, title, addition, or description, or any title, addition to a name, designation, or description, whether expressed in words or letters, or partly in one way or partly in another, implying that they are registered under the Dentists Act, 1978, or are persons specially qualified to practise dentistry.

As was pointed out by Sir Donald MacAlister in his presidential address to the General Medical Council, these decisions not only prevent practice by companies, but they practically impose upon companies the same disabilities as are now imposed on individual persons.

DOAN'S PILLS.

AT an inquest in Lowestoft on June 3rd evidence was given to the effect that the deceased, a man aged 39, had refused to seek medical advice during a long illness because he was relying on a secret nostrum. A medical man finally called in found him in a dying condition with marked dropsy and gangrene of the feet and scrotum. Death, he said, was due to renal disease aggravated by the excessive use of the pills and the want of proper medical treatment. The jury returned a verdict in accordance with this testimony. The pills in question were, we are informed, Doan's backache and kidney pills, though this is not mentioned in the report of the case in the local newspaper. In an article published at page 1645 of the BRITISH MEDICAL JOURNAL for December 8th, 1906, the probable composition of twenty such pills was shown to be: Juniper oil, 1 drop; hemlock pitch, 10 grains; potassium nitrate, 5 grains; powdered fenugreek, 17 grains; wheat flour, 4 grains; maize starch, 2 grains.

A PROSECUTION UNDER THE MIDWIVES ACT.

A CASE of considerable interest to medical men was heard recently at the Eccles Borough Police Court on Monday, May 10th. Under the Midwives Act of 1902, Sarah Ann Marsh was summoned for procuring admission to the Midwives' Roll for Lancashire by a false and fraudulent certificate, and Dr. G. Sidley, Vice-Chairman of the Eccles Health Committee and a member of the Education Committee, was summoned for aiding and abetting. Mr. Lewis, of the Office of the Director of Public Prosecutions, conducted the prosecution, and Mr. F. Ogden, instructed by the Medical Defence Union, defended Dr. Sidley. It was stated in evidence that Mrs. Marsh, having been in bona-fide practice as a midwife since 1899, applied within two years of the passing of the Midwives Act to be placed on the roll of Lancashire midwives. For that purpose she called on Dr. Sidley, who at her request signed a certificate to the effect that she was "sober, trustworthy, and of good moral character." The certificate was sent to the Central Midwives Board, and Mr. G. W. Duncan, Secretary of the board, who gave evidence, said that in consequence of the certificate she was admitted to the roll of midwives in April, 1905. She practised as a midwife until February, 1909, when she was convicted at Eccles of being drunk and incapable, and was fined 5s. and costs. This was reported to the Central Midwives Board, and inquiries were then made as to her previous history. It was then found that previous to her obtaining the certificate from Dr. Sidley, on the strength of which she was admitted to the roll, she had been convicted eight times of being drunk and disorderly, and after that date she was again convicted four times, and on two occasions sent to prison for a week and a month respectively. In March last her name was erased from the Midwives' Roll, and Mr. Duncan brought the case to the notice of the Director of Public Prosecutions, who thereupon instituted the present actions against Mrs. Marsh and Dr. Sidley,

For Dr. Sidley it was pleaded that he had first known Mrs. Marsh as a night nurse at the Eccles and Patricroft Hospital, at which he was honorary surgeon; he had also frequently met her at Patricroft in her capacity as nurse, and had always found

her trustworthy. He had not the least idea when he signed the certificate that she had ever been convicted of drunkenness, and what he did could not be said to be false or fraudulent. Neither had he acted recklessly, as in signing the certificate he spoke not from mere hearsay but entirely depended on his own personal knowledge of Mrs. Marsh. To give a false certificate wilfully would be a misdemeanour under the Act, and no one would believe for one moment that Dr. Sidley had been guilty of issuing a false certificate merely to enable a woman to earn her living as a midwife. After a short absence from court, the magistrates were unanimously of opinion that there was not even a *prima facie* case against Dr. Sidley, and the case against him was dismissed. Mrs. Marsh, however, was committed for trial at the Quarter Sessions.

The case came up again at the Salford Sessions on Monday, May 24th, when Mrs. Marsh was brought up on the charge above stated. Mr. Gordon Hewart appeared on behalf of the Public Prosecutor. Similar evidence was given to that previously given before the Eccles magistrates. Mr. G. W. Duncan, Secretary of the Central Midwives Board, said that the prisoner having been convicted several times of drunkenness, was unfit to hold a certificate as a midwife. There was, however, no evidence that she had ever neglected a case or attended one while under the influence of drink. Dr. Sidley gave evidence to the effect that when he signed the certificate he did not know that she had been convicted of drunkenness, or he would certainly not have signed any certificate. For the defence it was pleaded that the words "sober, trustworthy, and of good moral character" were only intended to apply in her capacity as a midwife, and the fact that she occasionally got drunk when not attending a case did not affect the question, as there was no suggestion that she had ever endangered the life of any woman or child whom she had charge of. The jury found that the prisoner was guilty, but that she had acted in ignorance, not realizing the full purport of the letter she took to the doctor, and so they recommended her to mercy. The Chairman said that, as she had already lost her livelihood by this offence, that was some punishment, and he bound her over in her own recognizances of £5 to come up for judgement when called upon; he trusted the case would act as a warning to others.

CONDITIONS OF SALE OF PRACTICE.

Ctesiphore writes that A. sold a dispensing practice with the usual restrictions, but an asset in the practice was the sale of what is called a "specialty," the said specialty consisting of a particular form of tonic. One of his old patients who had been taking this preparation went to A. at his new home and procured a supply of it, but A. told the patient that in future his successor would supply it to him. "Ctesiphore" wishes to know whether this was legal?

*** A. should refuse to see any of his old patients, but so far as the legality of his action is concerned all would depend upon the terms of the contract of sale. We notice that the complainant is not the person who purchased the practice from A., but his successor, and it is doubtful whether any agreement between A. and B. would be held to be equally binding between A. and C. We should not have thought that the sale of what purports to be a secret remedy would have formed a part of the practice of a registered medical practitioner.

MEDICAL WITNESSES' FEES.

T. R. A. has been subpoenaed to give evidence at a county court on behalf of an insurance company in an arbitration under the Workmen's Compensation Act. He wishes to know what fee he is entitled to charge the company, and whether he can demand his fee before entering the witness box.

*** Before being sworn, he is entitled to ask that his legal fees shall be guaranteed by the party issuing the subpoena, but these fees are only from ten to twenty shillings a day, and mileage of sixpence a mile one way.

CERTIFICATES FOR INSURANCE COMPANIES.

H. H. S. writes that he has on several occasions been asked for duplicate death certificates for insurance offices in which the deceased held policies, but the offices have declined to take any death certificate save that issued by the registrar. He wishes to know if this is the law.

*** The insurance offices are fulfilling a statutory obligation. It is illegal for them to pay any policy without the production of a copy of the registration of the death, which can only be furnished by the registrar. Some insurance companies require a special certificate from the medical attendant on the deceased, in addition to the registrar's certificate. A medical practitioner is perfectly justified in charging a fee for this.

THE PHARMACY ACTS.

Barkip.—Medical practitioners, by Section 1 of the Pharmacy Act Amendment Act, 1869, are exempted from all the restrictions in the first fifteen sections of the Pharmacy Act, 1868. We may refer our correspondent to a decision on the use of the word "pharmacy" as the description of a place where business is carried on by a person who is not registered under the Pharmacy Act, 1852, given by Judge Shand in the St. Helens County Court on March 31st. In giving judgement for the Pharmaceutical Society, Judge Shand said, "The use of the word is a sign implying that the person carrying on business in that place is one registered under the Act, or a person duly qualified to dispense medicines, as required by the Act." Leave was granted to the defendant to appeal against this finding. So there the matter rests at present until the appeal is disposed of.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

GRATIS ATTENDANCE ON MEDICAL PRACTITIONERS.

Antigrabber can of course, if he chooses, write to the practitioner and tender the amount which he thinks fair.

A DOCTOR'S CERTIFICATE.

W. A. S. R.—In reply to our correspondent, we would say that a fee of £1 1s. would not have been too much, having regard to the fact that a visit was required and the important nature of the certificate. Our correspondent was expected to make a most careful examination, and to take detailed notes of the case, having in view the possibility of his being called upon to give testimony in a court on oath.

SUPERSESSION.

E. F. L. de J.—(1) The patient was justified in going to Dr. B. (2) Dr. B. was justified in attending. (3) Dr. B. should have offered to retire in favour of Dr. A.; but if the patient insists and refuses to allow Dr. A. to attend, Dr. B. may continue to treat the case to the end, but he should avoid taking over the patient if possible. Dr. A.'s arrangements for night calls seem to be faulty.

THE ACCIDENTS OF PRACTICE.

A dentist writes to say that in the course of extraction part of a root was broken off. It was deemed advisable to do nothing more at the time, but the patient was advised to come back if it gave any trouble. Six weeks later he heard that the patient was under the care of a medical practitioner. He called to see her, when it was found that there was an acute alveolar abscess, which was subsequently opened. Something seems to have been said about the possible risk of necrosis, and even of blood poisoning; and our correspondent complains that exaggerated reports are being circulated by the woman to the prejudice of the dentist, who is blamed. He asks what he is to do.

*** We should strongly advise him to do nothing. This is the sort of accident that must happen from time to time in surgical or dental practice. If any really slanderous statements are made the dentist has a legal remedy, but he will probably best consult his own interests by allowing the matter to blow over, as no doubt it will very soon.

Public Health
AND
POOR LAW MEDICAL SERVICES.

THE EDINBURGH SMALL-POX HOSPITAL.

A subcommittee of the Public Health Committee of Edinburgh Town Council had a meeting on June 14th, with members of the Local Government Board, with reference to a suggestion by the latter body that the wooden erection used as a small-pox hospital within the grounds of Colinton Mains Hospital should be removed further from the main blocks of buildings. The officials of the Board urged that the hospital should be situated at as great a distance as possible from dwelling houses and buildings occupied by other patients; but the representatives of the city were not inclined to incur any fresh expenditure at the present time. After an exchange of views the matter was left as it stands at present.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Coventry.—The report for the year 1908 of the City of Coventry, by Dr. E. H. Snell, the Medical Officer of Health, contains the following principal features. Estimate population at the middle of the year, 91,000; birth-rate, 28.9; average for previous 10 years, 29.1; marriage-rate, 17.0; average for previous 10 years, 17.2; death-rate, 13.3; average for previous 10 years, 15.5; infantile death-rate, 93 per 1,000 births; average for previous 10 years, 135; zymotic death-rate, 0.94; average for previous 10 years, 1.9; respiratory death-rate, excluding phthisis, 2.12; phthisis death-rate, 1.31; death-rate from other forms of tuberculosis, 0.45. There were 238 cases of scarlet fever with

7 deaths, 7 of typhoid fever with 1 death, 108 of diphtheria with 8 deaths, and 2 cases of puerperal fever with 1 death. Twenty deaths were registered as due to whooping-cough, and there were 235 alleged cases notified from the schools. With regard to vaccination, there were 2,596 births, 192 died unvaccinated, 1,524 were vaccinated, 1,346 were unvaccinated, and there were 964 declarations made of conscientious objections, so that of the children who survived only 63.4 per cent. were vaccinated. Eighty-three deaths were attributed to cancer and other forms of malignant disease. The result of the examination of 1,992 school children is shown in the following table:

Defects and Diseases.	Total Number.		Per Cent.	
Head verminous	531		26.6	
Ringworm	5		0.25	
Teeth slightly decayed	320	1,216	16.0	61.0
Teeth much decayed	896		44.9	
Tonsils slightly enlarged	169	254	8.4	12.7
Tonsils much enlarged	85		4.2	
Enlarged glands in neck	779		39.1	
External eye disease	52		2.6	
Squint	17		0.8	
Defective eyesight	45		2.2	
Defective hearing	80		4.01	
Heart disease	5		0.25	
Lung disease (non-tuberculous)	29		1.4	
Tuberculosis	6		0.3	
Rickets	5		0.25	
Deformities	39		1.4	
Other defects	12		0.6	
Defective speech	18		0.9	
Defective nutrition	83		4.1	
Debility	150		7.5	
No defect found	303		15.2	

An examination was made of the sight of 1,688 children who during the year were admitted to the senior departments, and of these no less than 362, or 21.3 per cent., were found to have either defective or very defective sight. The parents in all of these cases were communicated with and advised to seek advice. With regard to the verminous heads, the proportions were: Infants, boys 11.4 per cent., girls 40.4 per cent.; senior, boys 1.27 per cent., girls 47 per cent.

A MINISTER OF HEALTH.

DR. JOHN HIGHET (M.O.H., Workington) writes: I am glad to see from a report of the opening of the Whitechapel Exhibition that Mr. John Burns, towards the conclusion of his address, made a pronouncement of far-reaching importance, "As Minister of Public Health, I wish the exhibition good luck!"

To myself personally this declaration on the part of a responsible minister identifying himself with public health matters and creating himself for the time being Minister of Health, is particularly gratifying, for it is now something like twenty years ago when, in an address I delivered on "State Obligations in Matters of Public Health," I advocated the creation of a State Department of Public Health with a Minister at its head to deal with all matters affecting the sanitary well-being of the people of this country.

Since that time things have moved but slowly in the direction I indicated. Now, however, public opinion seems to be fast awakening to the truth of Lord Beaconsfield's policy of sewage, "Sanitas, sanitatum, sanitas," and a democratic minister does not disdain to style himself a "Minister of Health." So far this is distinctly encouraging. Will Mr. Burns take his courage in both hands? Will he dissociate the department of which he has constituted himself "Minister" from that of the Local Government Board, and create a State Department of Public Health, the duty of which shall be to devote itself exclusively to public health affairs?

I will not here go into details of what ought to be included in the work of this service, but briefly state as my opinion that, beginning with the Notification of Births Act, it ought to follow the subject from the cradle to the grave, including administration of Factory Acts, compensation, and old age pensions; and, having done all this, will he kindly consent to obliterate himself by, so far as the Public Health State Department Service is concerned, committing hari-kari, and allow someone of eminence and repute in sanitary affairs to direct and govern the said service, and to be in something more than name a "Minister of Health."

Obituary.

D. M. BOURNEVILLE, M.D.,

PHYSICIAN TO THE BICÊTRE, PARIS.

ON the last Sunday in May there passed away, in his 69th year, a notable figure among our Parisian colleagues, Bourneville, for many years physician to the children's department of the Bicêtre. A man of the people, sprung from a yeoman stock in Normandy, he studied medicine in Paris, under the special guidance of Delasiauve, to whose *Journal of Mental Medicine* he contributed his earliest papers on idiots and epileptics. He took as the subject of his graduation thesis in 1870, "A Study of Clinical Thermometry in Cerebral Haemorrhage and other Brain Maladies."

He early showed a literary bent, and in association with such men as Pascal, Claude Bernard and Charcot, assisted in the publication of many valuable works, notably of the admirable lectures by the last named on diseases of the nervous system. After the Franco-German war, during which he acted as an ambulance surgeon, he founded the *Progrès Medical*, a weekly journal, which he continued to edit till a year or two ago. In 1879 he became Physician to the Bicêtre, a post he retained till 1905, when he reached the age of compulsory retirement. His clinics in this hospital, and perhaps more especially his annual reports under the title of *Recherches Cliniques et Thérapeutiques sur l'Epilepsie, l'Hystérie et l'Idiotie*, published during a long series of years, with the aid of his clinical assistants, and containing a mine of pathological treasure, gave him a wide reputation, and he was the leading Continental authority on all that concerned mentally abnormal children. He devoted much attention to reorganizing, at the Bicêtre, the arrangements for the education and training of the latter class, which had fallen into abeyance since the days of Séquin, providing, moreover, systematic instruction in useful industries. He also founded at Vitry, near Paris, a private establishment for defective children of the upper social class, and of this, as also of the Fondation Vallée, he remained Medical Director till his death. In addition to an original work on the *Care, Treatment, and Education of Idiotic and Backward Children*, he published, under the title of *The Library of Special Education*, valuable reprints of the works of Séguin and other helpful treatises. Thanks to his persevering efforts, a trial of day schools for special instruction of defective children has at length been made in Paris.

Bourneville's activities were, however, not limited to matters strictly professional, and in 1876 he was induced to take up municipal politics, chiefly with the view of remedying hospital abuses, and after serving seven years on the Municipal Council he was returned in 1883 as a representative of a division of Paris to the Chamber of Deputies. His efforts were mainly directed to the laïcization of the hospital services and to the establishment of systematic professional instruction of "infirmiers and infirmières," both in hospitals and asylums. He also brought about a reorganization of the "Services Speciaux d'Accouchements." His reforming zeal occasionally involved him in differences with professional *confrères* and exposed him to the abuse and misrepresentation of the clerical party, but to the end he adhered fearlessly and unswervingly to what he considered the path of duty.

His funeral, which took place on June 2nd, was attended by a large assembly of the nurses, attendants, and other members of the staffs of the hospitals and asylums of Paris, for whom he had done so much, and was honoured by the presence of representatives of the Government, the President of the Municipal Council, and the Director of Public Assistance.

THE LATE MR. G. H. HAMES.—In the obituary on Mr. Hames, which appeared in the JOURNAL of June 12th, it was stated that he was house-surgeon to Sir William Savory. We have been informed that it was to the late Mr. G. W. Callender that he was house-surgeon. The date was July to October, 1875. Mr. Hames was appointed house-physician to Dr. Southey for one year on April 1st, 1876.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL.

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ARSENIC IN HUMAN HAIR.

DR. STANLEY COLYER (Halifax) asks: What is the normal amount of arsenic found in human hair?

HOSPITAL WALLS AND FLOORS.

SAVAGE (South Africa) asks for advice as to a durable and easily cleansed paint for walls of hospital wards; on what kind of plaster is such best applied; whether there are any other substitutes excepting glazed bricks and material of this kind; and what makes a good floor for an operating theatre.

STALE ASPARAGUS.

A. L. asks whether asparagus develops any deleterious properties if kept for a few days after being cut before it is cooked. Three gentlemen have suffered from vomiting and purging, commencing eight hours after the ingestion of asparagus, which had been cut three or four days before being boiled.

*** We can find no record of asparagus producing the symptoms mentioned in any of a considerable number of authorities dealing with its use as food which have been consulted. Asparagus contains a high proportion of nitrogenous substances, of which more than half consist of various amides, and it would not be at all surprising if these underwent some change on keeping the cut vegetable whereby deleterious substances might be produced. The stem portion is said to contain ferments favourable to decomposition.

ANSWERS.

DESIGN FOR A SURGERY.

R., who has just finished building a surgery, writes, in reply to "T.'s" inquiry in the JOURNAL of June 5th, p. 1395: My surgery is an annexe to my dwelling house, and so I only required three walls, the fourth being part of the gable of the house, through which a door was broken. My new surgery is 23 ft. long, 10½ ft. wide, and 10½ ft. high (outside measurements). The front is dressed stone to correspond with house, the sides and end of brick, 9 in. thick, and plastered with cement. The roof is wood, covered with thick felt and heavy corrugated iron. The estimate for that part of the work was £22 15s. Inside I have divided it into two rooms, one being 11 ft. by 9½ ft., and the other 9½ ft. square. All inside is lined with dressed yellow pine, and has two coats of varnish. The smaller room I have fitted up as a dispensary, and it has a small counter, containing half a dozen drawers, and there is upwards of 60 ft. of shelves along the side wall. The front has a window and a door for patients, so that they need not come through my dwelling house. The cost of joiners' work, painting of doors, fitting up of electric bell, shelves, counter, etc., was £30, so that I had the whole building for a little less than £53.

LETTERS, NOTES, ETC.

LYNN THOMAS AND SKYRME FUND.

MR. WILLIAM SHEEN, M.S., F.R.C.S. (2, St. Andrew's Crescent, Cardiff) Honorary Secretary of this Fund, desires to acknowledge the following subscription:

Twenty-fifth List of Subscriptions.

D. C. Lloyd Owen, Birmingham... ... £1 1 0

SENILE GANGRENE.

DR. GEORGE MURRAY (Sunderland) writes: In June, 1908, I was called to see a man aged 70 suffering from gangrene in the great toe. It spread gradually up the limb until it reached the junction of the middle and upper third, where the line of demarcation formed. The soft parts sloughed in time until the bones were reached. About the middle of January, 1909, the patient sent for me, and, on examining the limb, to my surprise I found the gangrenous part of limb completely separated. The bones were eaten through. The haemorrhage was very slight. The stump was nearly healed, except where the fibula and tibia protruded. Granulations slowly covered the ends of the bones, and now the stump has healed. The case is an interesting one, as it shows what can be done by leaving things to Nature. The limb was dressed antiseptically. Had he been operated upon, the shock would probably have killed him.

"HYPERTROPHIC OSTEO-ARTHROPATHY OF HANDS WITHOUT VISCERAL OR CONSTITUTIONAL DISEASE."

DR. F. PARKES WEBER (London, W.) writes: May I point out that the title "Hypertrophic Osteo-arthropathy" given to Mr. R. C. Worsley's interesting article in the BRITISH MEDICAL JOURNAL for June 12th (page 1411) is liable to give rise to some confusion in nomenclature? Mr. Worsley describes and illustrates a typical case of "giant growth" of portions of both hands, whereas the term "hypertrophic osteo-arthropathy" is almost exclusively applied to the totally different condition known as pulmonary (or better, secondary) hypertrophic osteo-arthropathy, described by Pierre Marie and others.

THE FINANCIAL PROSPECT OF MEDICINE.

DR. H. S. CHATE, M.B., B.Sc., D.P.H. (Twickenham), writes: The article under the above title is of great interest to the medical profession, especially to those who have recently qualified and are beginning to realize the prospects. But I would suggest that the ratio number of medical men to general population does not give a quite accurate idea of the amount of work for each medical man at the present time, as compared with the amount of work for each man twenty-eight years ago. For, after all, it is not the number of possible patients, but rather the number of illnesses which determines the remuneration of the doctor. And there is no doubt that the amount of illness is much less than formerly, owing to improved sanitation and knowledge of hygiene. This applies more especially to infectious diseases, but also to some extent to general diseases. Dr. Newsholme, in his *Vital Statistics*, estimates, if I remember rightly, a decrease per annum of 50,000 cases of sickness since the passing of the Public Health Act, 1875.

Moreover, there are several factors at work at the present day to diminish sickness—for example, the inspection of school children, the Midwives Act, etc.

Hence it is practically certain that the increase of population has not brought with it corresponding increase of number of illnesses, and therefore the amount of work per medical man has decreased in much greater ratio than your figures represent.

*** Our correspondent's point is the subject of the article, promise of which was made at page 1450 in the issue of the JOURNAL for June 12th.

ANAESTHETICS IN GENERAL PRACTICE.

DR. SYDNEY HAYNES (Birmingham) writes: While agreeing with Mr. Gardner, whose article on this subject appeared in the BRITISH MEDICAL JOURNAL of June 5th, p. 1353, on the advisability of keeping the air ways clear, I do not consider that it is *always* wise to retain even a weakly active corneal reflex, more especially in abdominal and other operations where any straining may prove injurious to the patient. Another point I may mention is that a too frequent testing of the corneae results in the loss of corneal sensibility, so that the anaesthetist who relies only on that test may fall into the error of considering the patient more deeply anaesthetized than he is. I agree with Mr. Gardner in his advocacy of the E_2C_1 mixture, which I believe to be safer as a routine anaesthetic than $CHCl_3$, and am of opinion that all patients, whether children or not, should be lifted or moved as little as possible when anaesthetic.

SLEEP.

DR. H. G. H. NAYLOR (St. Kilda, Victoria) writes: As the subject of sleep has been under discussion in your columns lately, will you permit me to make a few remarks on this physiological condition? The idea of anaemia of the brain as a cause for the necessity for sleep is, in my opinion, not reasonable, otherwise cats and dogs must suffer with frequent attacks of brain anaemia daily. I think the inclination to sleep is to be accounted for by the retention of waste products from the absorption of unassimilated food, and from daily exercise, these vitiating the blood supply to the brain. One is often consulted by patients who want to sleep too long or not sufficiently long. Both conditions are relieved by a free clearing out of the emunctories, the bowels, and kidneys at the same time by a dose of about 2 grains or 3 grains of calomel, a drug which acts simultaneously on them both. I have often in my practice found a dose of calomel about three times a week enable the patient to sleep well and rid him of his imagined woes and dreams, while at the same time he has been dieted.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.

To be Stamped with a Penny Stamp and Posted.

BRITISH MEDICAL ASSOCIATION.

SEVENTY-SEVENTH ANNUAL MEETING.

JULY 27th, 28th, 29th, and 30th, 1909.

Members of the British Medical Association who intend to visit **BELFAST** during the Annual Meeting will greatly facilitate the labours of the Local Committee if they will fill up the following form and forward it by post as addressed on the other side. This will eventually be sent to the Head Office, London, to issue the necessary certificate to enable members to obtain Railway Tickets at reduced fares.

MEMBERS DESIRING ACCOMMODATION ARE REFERRED TO NEXT PAGES.

The Forms are intended for the use of Members of the British Medical Association exclusively.

It is my intention to be present at the ANNUAL MEETING in BELFAST,

*and I expect to be accompanied by**.....

Name .....

Address .....

* Here indicate whether accompanied by a lady, as separate vouchers are required to enable Members to obtain Railway Tickets at reduced fares.

It is my intention to be present at the ANNUAL DINNER of the Association on Wednesday Evening, July 28th, and I herewith enclose Cheque (or P.O.O.).†

Signature .....

† DINNER TICKET without Wine, but inclusive of Aerated Waters, 15s.
Wine to be paid for as ordered.

Cheques and Postal Orders should be made payable to the Secretary of the Executive Committee, CECIL SHAW, Esq., M.D., and enclosed in an envelope, together with this form, directed as on the reverse. Early application for Tickets is requested by the Committee, to enable them to provide accommodation and allot seats.

[SEE NEXT PAGE

SEVENTY-SEVENTH ANNUAL MEETING, BELFAST, July 27th, 28th, 29th, and 30th, 1909.

LIST OF HOTELS WITH SCALE OF CHARGES.

Hotels.	Single Rooms.	Double Rooms.	Bed, Breakfast and Attendance.	Distance from Queen's University Buildings.
GRAND CENTRAL HOTEL— Royal Avenue	50	50	7/6 to 12/-	8 min. tram.
ROYAL AVENUE HOTEL— Royal Avenue	10	20	6/6	8 „ „
IMPERIAL HOTEL— Donegall Place	50	—	5/- to 7/6	8 „ „
ROBINSON'S TEMPERANCE HOTEL— Donegall Street	25	—	4/6	10 „ „
STATION HOTEL— York Street	20	—	7/- to 14/	15 „ „
GRAND METROPOLE HOTEL— Donegall Street and York Street	12	12	4/6	10 „ „
EGLINTON AND WINTON HOTEL— High Street and Victoria Street	20	—	5/-	14 „ „
INTERNATIONAL TEMPERANCE HOTEL— College Square East	20	—	4/- to 4/6	5 „ „
ROYAL HOTEL— Wellington Place	20	—	6/6	6 „ „
LINENHALL HOTEL— Donegall Square West	10	—	4/6	5 „ „
MONTEITH'S COMMERCIAL TEMPERANCE HOTEL— York Street	—	several	4/-	14 „ „

Penny Stamp.

CECIL SHAW, Esq., M.D.,
B.M.A. Secretaries' Office,
Queen's College,
BELFAST.

SEVENTY-SEVENTH ANNUAL MEETING, BELFAST, July 27th, 28th, 29th, and 30th, 1909.

LIST OF LODGING HOUSES WITH SCALE OF CHARGES.

Address.	Rooms.	Bed, Breakfast and Attendance.	Distance.
Mrs. S. Johnston, 2, Windsor Gardens, Malone Road	1	6/-	5 mins. walk.
Mrs. J. T. Paul, 80, Macaulay Terrace, Clifton Park Avenue	2	3/6	15 mins. tram.
Mrs. M. Newsome, 4, Elmwood Avenue, University Road... ...	2	5/-	3 mins. walk.
Mrs. Murray, 20, Camden Street, University Road	1 double	5/-	3 ,, ,,
Mrs. Hammond, 4, Eglantine Avenue, Malone Road...	1 double 1 single	5/-	5 ,, ,,
Mrs. Teggart, 6, Eglantine Avenue, Malone Road...	2	5/-	5 ,, ,,
Miss M. J. Dougan, 30, Cromwell Road, Botanic Avenue	several	3/-	3 ,, ,,
Mrs. Millar, 62, Cromwell Road, Botanic Avenue	3	3/-	3 ,, ,,
Mrs. Irwin, 30, Wolseley Street, Cromwell Road	3	4/-	3 ,, ,,
Miss M. R. Scott, 91, Fitzroy Avenue, Ormeau Road	1 or 2	5/-	3 ,, ,,
Mrs. Grierson, 62, Botanic Avenue ...	3	4/-	3 ,, ,,
Mrs. Thallon, 169, University Street	3 or 4	5/6	5 ,, ,,
Miss M. J. Brew, 9, Connaught Terrace, Cromwell Road...	2	3/6	3 ,, ,,
Miss Byron, 120, Gt. Victoria Street	2	3/-	7 ,, ,,
Mrs. Thompson, 5, University Avenue	2	3/-	5 ,, ,,
Mrs. Wallace, 4, Cromwell Road, Botanic Avenue	4	3/-	3 ,, ,,
Mrs. McAllister, 12, Wellington Park	2	4/-	5 ,, ,,
Mrs. M. Walker, 14, Westminster Street, University Street ...	2 at 3 at	3/- 2/6	3 ,, ,,
Mrs. McCausland, 50, University Street	3 or 4	5/-	3 ,, ,,
Mrs. M. A. Baird, 124, Fitzroy Avenue, Botanic End	2	3/-	3 ,, ,,
Mrs. A. Dougan, 30, University Street	2 or 3	3/-	3 ,, ,,
Mrs. Minnis, 14, Mountcharles, University Road	4	3/6	2 ,, ,,
Mrs. McKee, Arden Villa, Balmoral, 492, Lisburn Road	2	3/-	7 mins. tram.
Mrs. E. A. Bryars, 46, Cromwell Road, Botanic Avenue	1	3/6	3 mins. walk.
Mrs. Neill, 7, Connaught Terrace, Lawrence Street	3	3/6	3 ,, ,,
Miss Convery, 1, East Bridge Street, Cromac Square	2 single 1 double	3/-	15 mins. tram.
Mrs. McCann, 2, Franklin Street ...	several	4/6	5 ,, ,,
Mrs. Houston, "Lisheen," Sans Souci Park	2	7/6	7 mins. walk.
Mrs. E. E. Johnston, 18, Elmwood Avenue	1	7/-	2 ,, ,,
Mrs. McGowan, 25, Thorndale Avenue, Antrim Road	3	4/6	15 mins. tram.
Mrs. M. Allan, 122, Eglantine Avenue	3	7/6	3 mins. walk.
Mrs. S. Lee, 6, University Street ...	1	4/6	3 ,, ,,
Mrs. Lyons, 8, Lower Crescent, University Road	3	7/6	2 ,, ,,
Mrs. Martin, 1, Wilmont Terrace, 53, Lisburn Road...	2	3/6	5 ,, ,,
Mrs. M. Stewart, 19, Jubilee Avenue, Antrim Road...	1 double	5/-	17 mins. tram.
Mrs. O'Shea, 72, Fitzroy Avenue ...	2	3/6	3 mins. walk.
Mrs. Vivash, 61, Ulsterville Avenue, Lisburn Road	2	3/6	3 ,, ,,
Mrs. S. J. Phillips, 133, University Street	4	5/-	3 ,, ,,
Mrs. M. Black, 1, Eblana Street, University Street	3	2/6	3 mins. walk.
Miss Regan, 85, Eglantine Avenue, Malone Road...	5	6/-	5 ,, ,,
Mrs. Jamison, 50, Delhi Street ...	4	4/-	15 ,, ,,
Mrs. Taylor, 3, Crescent Gardens ...	4	5/-	4 ,, ,,
Mrs. Fawcett, 23, University Street...	3	5/-	5 ,, ,,
Mrs. Browne, 56, University Street...	1	—	5 mins. walk
Mrs. Muirhead, 58, University Street	3 single 1 double	5/-	,,
Mrs. Brown, 94, University Street ...	4	4/6	,,
Mrs. Buchanan, 113, University Street	2	3/-	,,
Mrs. Johnston, 14, Canterbury Street	2	2/-	,,
Mrs. Fields, 48, Botanic Avenue ...	2 double	4/6	,,
Mrs. A. M. Johnston, 49, Botanic Avenue	2	4/6	,,
Mrs. J. Kirk, 52, Botanic Avenue ...	4	3/6	,,
Mrs. M. E. Mullins, 24, Ireton Street, Botanic Avenue	1	4/- (?)	,,
Mrs. Martin, 6, Cromwell Road ...	—	—	,,
Mrs. L. K. Costigan, 17, Mountcharles	3 single 1 double	5/-	,,
Mrs. A. M. Wallace, 2, Elmwood Avenue	2	5/6	,,
Mrs. Smyth, 89, Wellesley Avenue ...	3	5/-	,,
Mrs. M. Wright, 91, Wellesley Avenue	2	5/-	,,
Mrs. Agnew, 1, Wellington Park Avenue	2	3/6	,,
Mrs. McErvel, 110, Eglantine Avenue	1	5/-	,,
Miss Dudgeon, 13, Malone Avenue ...	2	3/6	,,
Mrs. McKee, 114, Malone Avenue ...	1 two bedded 1 single	5/-	,,
Miss L. Reid, "Wilmington," Marlborough Park	2	4/6	7 mins. tram.
Mrs. L. Armstrong, "Norham," Bladon Drive...	1 double 1 single	4/6	,,
Mrs. Cole, 31, Stranmillis Road ...	4	5/-	5 mins. walk.
Mrs. A. K. Armstrong, 43, Stranmillis Road	1 two bedded	4/-	,,
Mrs. Pinnion, 4, Toronto Terrace, Lisburn Road	1 two bedded	3/6	,,
Mrs. Hutchison, "Martello," College Park	3	3/6	,,
Mrs. Wilson, 58, Shaftesbury Avenue	3	3/6	,,
Mrs. M. Fry, 136, Fitzroy Avenue ...	1 two bedded 1 single	4/-	,,
Mrs. M. Brannigan, 100, Gt. Victoria Street	4	3/6	7 mins. walk.
Miss R. Young, 127, Great Victoria Street	1 two bedded 2 single	3/6	7 ,, ,,
Mrs. A. J. Walters, 7, Fountainville Avenue	4	—	3 ,, ,,
Mrs. Patterson, 3, Cromwell Road ...	—	3/6	3 ,, ,,
Mrs. E. M. Johnston, 5, Ireton Street, Botanic Avenue	2	3/6	3 ,, ,,
Mrs. M. Daly, 17, Eglantine Gardens, Malone Road...	2	4/6	5 ,, ,,
Mrs. C. A. Martin, 6, Cromwell Road	2	3/6	3 ,, ,,
Mrs. Coulter, 19, Mountcharles ...	3	-	3 ,, ,,
Mrs. Haddock, 128, University Avenue	2	4/-	5 ,, ,,
Miss O'Hara, 93, Fitzroy Avenue ...	2	4/	3 ,, ,,

[SEE NEXT PAGE

SEVENTY-SEVENTH ANNUAL MEETING, BELFAST, July 27th, 28th, 29th, and 30th, 1909.

LIST OF LODGING HOUSES WITH SCALE OF CHARGES.

Address.	Rooms.	Bed, Breakfast and Attendance.	Distance.
Mrs. Bogan, 34, Botanic Avenue ...	1	5/6	3 mins. walk.
Mrs. Colvin, 37, Botanic Avenue ...	4	3,6	3 ,, ,,
Mrs. Gowdy, 68, Fitzwilliam Street...	1	—	1 ,, ,,
Mrs. Thompson, 5, Fountainville Avenue	5	5/-	5 ,, ,,
Mrs. J. W. Johnston, 46, Botanic Avenue	—	5/-	3 mins. walk.
Mrs. Flower, 62, Malone Avenue ...	2	3/6	5 ,, ,,
Miss Ferguson, 149, University Street	2	3/6	3 ,, ,,
Mrs. McKee, 39, Botanic Avenue ...	—	—	3 ,, ,,

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Members desiring to engage rooms are requested to communicate direct with the persons whose names are given in above list, or with the managers of hotels.

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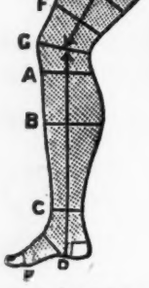

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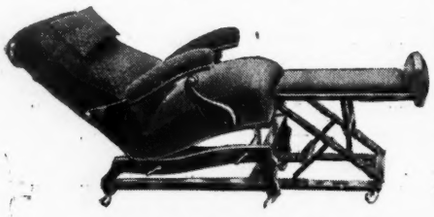

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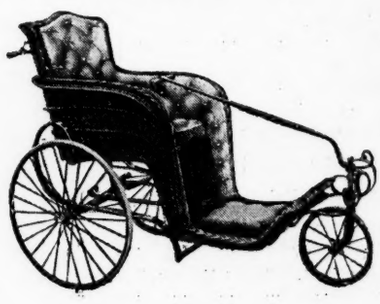

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